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ABSTRACT

On average, local governments in nonmetropolitan counties spent about 10% less per pupil on primary and secondary education than local governments in metro counties in 1982. However, national averages obscure a huge variation in education spending among nonmetro counties. Per pupil spending was about 47% higher than the national average in totally rural Western counties and about 37% lower in Southern urbanized nonmetro counties. Among nonmetro counties, those dependent on farming or mining or not adjacent to metro counties had higher levels of per pupil spending due to the higher costs of providing services to a sparse population. Per pupil expenditures in nonmetro counties were generally lower than those in metro counties due to lower levels of income and taxable wealth. In most states, state aid reduces the relative differences in spending among local areas. Local governments' reliance on state aid to fund education grew during the 1980s with states providing slightly more than half of all local government revenues for education in 1987. Direct federal aid for primary and secondary education fell by about 4% per year, in constant dollars, during the 1980s. Future efforts to diminish differences in per pupil spending between metro and nonmetro counties will require higher levels of real resources. In the face of the huge federal deficit and increasing state deficits, one may expect increased efforts to reallocate state aid to needy rural districts. This report contains 44 references, 13 maps, 13 graphs, and 19 data tables. (SV)

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Financing Rural Elementary and Secondary Education

by

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Occasional Paper for the Appalachian Regional Education Laboratory

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FINANCING RURAL ELEMENTARY and SECONDARY EDUCATION

Elliott Dubin*

Introduction

Periodically, the nation focuses a great deal of attention to the quality of education provided by its public schools. A great deal of energy and resources were devoted to education, especially in the areas of science and mathematics, following the launching of Sputnik in 1957. In the more recent period, declining competitiveness of many industries in international markets and lagging productivity growth has again aroused concern over the quality of education. The National Commission on Excellence in Education, in its 1983 report A Nation at Risk, documented the dimensions of the decline in the quality of education provided.[1] Among the indicators of the decline in the quality of education were: declining average scores on standardized tests, declining science achievements of 17 year olds, a lack of "higher order" intellectual skills of 17 year olds, approximately 13 percent of all 17 year olds categorized as functionally illiterate, and the decline in the number and

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[1] The National Commission on Excellence in Education. A Nation at Risk: The Imperative for Educational Reform. U.S. Department of Education, Washington, DC April 1983, pp. 9, 10.

proportion of students demonstrating superior achievements on Scholastic Aptitude Tests (SATs).

Declining scores on achievement tests, lack of "higher order" thinking skills, and high rates of illiteracy are not only statistical artifacts but have real world importance as well. Business leaders are voicing concern that poorly educated people are not equipped to cope with the vast changes in the nature of work expected in the near future, are prone to make errors which are costly to remedy and reduce overall productivity, and often are not flexible enough to perform jobs which require multiple tasks rather than a single task.[2] According to Anthony Carnevale, Chief Economist for American Society for Training and Development, the cost to the economy of poorly educated workers, in terms of remedial training required and productivity losses, is approximately $25 billion.[3] Of possibly greater concern are the severe labor shortages predicted in the near future. According to Harold Hodgkinson, Executive Director of the Center for Demographic Policy, 83 percent of the 20 million new workers

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[2] See, for example: Raspberry, William. "When Industry Gets a Defective Supply of Workers", The Washington Post, November 20, 1987, p. A-25. Raspberry, William. "The Jobs Are There-Why Can't Our Kids Take Them?", The Washington Post, July 15, 1988, p. A-27. Power, Phillip. "Upgrading the American Workforce", The Entrepreneurial Economy, December/January 1988, pp. 14-17. "Where Culumbus Landed in 1776", The Economist, October 31, 1987, p. 9.

[3] "A Shallow Labor Pool Spurs Businesses to Act to Bolster Education", Wall Street Journal, September 28, 1987, p. 1.

entering the labor force between 1988 and the year 2000 will be able to fill only low-skill, low-paying jobs.[4]

The quality of elementary and secondary education provided is also of major concern to State and local government policy makers. Expenditures for elementary and secondary education constitute the largest single item in local government budgets--about 40 percent of all local government general expenditures in 1987, 24 percent of all State and local government general expenditures combined.[5] High quality public education is also considered a tool for local economic development by State and local government policy makers in the same way that national policy makers view education as a means of increasing long-run productivity growth. Several recent studies have documented the link between local public expenditures for education and the rate of growth of jobs and incomes.[6]

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[4] "U.S. Facing Severe Labor Shortage," Washington Post, June 24, 1988, pp D-1 and D-6.

[5] General expenditures exclude insurance trust expenditures and expenditures for public utilities. U.S. Department of Commerce, Bureau of the Census. GF87-5: Government Finances in 1986-87, p. 46.

[6] See, for example: Carlino, Gerald and Edwin S. Mills. "Do Public Policies Affect County Growth?" Business Review, Federal Reserve Bank of Philadelphia, July/August 1985, pp. 3-16. Helms, L. Jay. "The Effects of State and Local Taxes on Economic Growth: A Time Series-Cross Section Approach." The Review of Economics and Statistics, Vol. LXVII, No. 4, December 1985, pp. 574-582. Patel, Dinker. "Schools and Jobs: Making the Connection." State Government News, October 1987, pp. 14-17. Quan, Nguyen and John H. Beck. "Public Expenditures and State Economic Growth: Northeast and Sunbelt Regions." Southern Journal of Economics, Vol. 54, No. 2, October 1987, pp. 361-376. Schaeffer, Peter V.

In recent years, rural areas have fallen further behind urban areas in income employment growth, population growth, and other measures of economic well-being.[7] Renewed rural development depends, to a large extent, on educational improvements, as noted by rural development experts.[8] Rural local governments face major financial obstacles, such as the high cost of providing education in sparsely settled areas and stagnant and inadequate local tax bases, to make such improvements. State governments, which have primary responsibility for guaranteeing adequate education levels for local areas with inadequate tax bases, most of which are rural, have often fallen short of meeting their responsibilities.[9]

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and William H. Sander III. "Investing in Education: Payoffs in Employment Growth." Policy Forum, Institute of Government Affairs, University of Illinois, Volume 1, No. 1, 1988. Tweeten, Luther. "Education Has Role in Rural Development." Rural Development Perspectives, October, 1980, pp. 9-12.

[7] Brown, David L. and Kenneth L. Deavers. "Rural Change and Rural Economic POlicy Agenda for the 1980's", Rural Economic Development in the 1980's, Prospects for the Future. Rural Development Research Report No. 69, U.S. Department of Agriculture, Economic Research Service, Washington, DC 1988, pp 1-26.

[8] Ross, Peggy J. and Stuart A. Rosenfeld. "Human Resource Policies and Economic Development" Rural Development Research Report No. 69, op. cit. p. 333.

[9] See, for example: Wagar, Linda. "Rich Vs. Poor Schools: When Education Isn't Equal", State Government News, August 1989, pp. 6-9; and, Peterson, William. "Kentucky Public Schools Ruled Unconstitutional", Washington Post, June 9, 1989, p. A 16.

Improving the quality of education, in terms of course offerings and content, especially for secondary education, may be more difficult in rural areas than in metro areas. Rural schools are at a disadvantage vis a vis urban schools in offering high level science and mathematics courses such as chemistry, physics, and calculus.[10] Funding the salaries necessary to attract qualified teachers in these fields could require increased taxes in rural school districts.[11] But, some rural residents already face higher tax burdens than their urban counterparts, making tax increases more difficult in rural areas.[12]

Purpose and Scope

This report addresses four questions: 1) Do rural areas actually spend less per pupil for elementary and secondary education than

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[10] A survey of high school principals reveals that rural schools face greater difficulties in filling vacant positions in these subjects than principals in urban and suburban schools. U.S. Department of Education, Office of Educational Research and Improvement. The Condition of Education, Elementary and Secondary Education, 1988, Volume 1, Washington, DC 1988, pp. 105, 127.

[11] Reductions in other education services, or other public services are alternatives to higher taxes.

[12] Local tax collections as a percentage of resident personal income. On the average, tax burdens of residents of totally rural nonmetro counties exceeded the tax burdens of metro residents, except for those residing in core metro counties (see Table 1 for definition of county types). Own source general revenue effort (own source general revenues as a percentage of resident personal income) was almost uniformly higher in nonmetro counties than in metro counties in 1982. Reeder, Richard. Rural and Urban Government Fiscal Trends, 1977-1982, Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Staff Report No. AGES8802010, May 1988, pp.3, 19.

urban areas? 2) How do education expenditures vary among different types of rural areas? 3) Does the size of the area affect the level of per pupil spending? and 4) To what extent do Federal and State aid for education mitigate the differences in education spending between rural and urban places?[13]

To answer these questions, this paper presents information on the differences in current spending per pupil between rural and urban areas and among different types of nonmetro areas in 1977 and 1982. It also examines more recent changes in per pupil education spending, covering the education reform period of the 1980's. The report shows how the size of the area, measured by estimated enrollment and enrollment density (pupils per square mile) affects the level of education spending. Federal and State policy issues are also discussed. The metro/nonmetro distribution of State and Federal aid for education is examined. Variations among different types of nonmetro counties are discussed. The report shows how State aid reduces the differences in education spending between relatively richer and poorer areas. This paper presents conclusions on funding from State governments needed to improve the quality of education.

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[13] The terms rural and nonmetro and urban and metro are used interchangeably in this report. Definitions of the various types of nonmetro areas are presented in the data sources and methodology section.

Data Sources and Methodology

County Level Data

The data on local government expenditures for education come from the Bureau of the Census' computer tapes of the Census of Governments for 1977 and 1982. This is the only available source of financial information on individual local governments in rural areas. Although it would be desirable to have more up-to-date information, the annual sampling of governments between census years provides insufficient information on small governments to be reliable to support analysis.

Local government expenditures for elementary and secondary education are aggregated up to the county level. The major advantage of aggregating these data is that all districts are included in the analysis; i.e., no distinction is made between independent school districts and dependent school districts (school systems administered by a county or other government).[14] However, county level data obscure intracounty differences in spending. Subcounty jurisdictions having different student

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[14] It has been hypothesized that public education expenditures would be lower in dependent school districts than in independent school districts, everything else held constant, because local officials would be forced to effect compromises among many competing interests--"municipal overburden". Independent school districts, with only one function to perform, would be better able to fund primary and secondary education. However, there is no evidence that independent school districts spend more than dependents school districts. See: Brazer, Harvey E. and Therese A. McCarthy. "Interaction Between Demand for Education and Municipal Services," National Tax Journal, Vol. XL, December, 1987, pp. 555-566.

populations, fiscal resources, and tastes can exhibit substantial differences in education expenditures.

This paper compares differences in current expenditures, per pupil, for elementary and secondary education between metro counties and nonmetro counties, and among different types of nonmetro counties.[15,16,17] Nonmetro counties are grouped according to "Beale Codes" (county population residing in urban areas and their adjacency to metro areas), and according to "Ross-Green Codes" (social and economic characteristics of counties)[18]. These categories illustrate the diversity of economic and social characteristics among nonmetro counties. Historical comparisons

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[15] Expenditures for interest on debt and capital expenditures are excluded. Because these expenditures are not evenly distributed across local governments at any point in time, their inclusion would be misleading as a measure of current services.

[16] Estimates of school enrollments by county were derived by multiplying the proportion of the population aged 7-18 years in 1980 in each county by county populations in 1977 and 1982. There is an unknown bias in these estimates since the proportion of the pupils actually enrolled in public schools will vary among counties. Further, an unknown bias may exist if the proportion of the population aged 7-18 in any county changed significantly from 1977 to 1982.

[17] Per pupil spending by county groups are calculated from weighted averages, unless otherwise stated.

[18] See: Bender, Lloyd D., Bernal L. Green, Thomas F. Hady, John A. Kuehn, Marlys K. Nelson, Leon B. Perkinson, and Peggy J. Ross. The Diverse Social and Economic Structure of Nonmetropolitan America. RDRR-49. U.S. Department of Agriculture, Economic Research Service, September 1985 and Hines, Fred K., David L. Brown, and John Zimmer. Social and Economic Characteristics of the Population in Metro and Nonmetro Counties, 1970. AER-272. U.S. Department of Agriculture, Economic Research Service. March 1975.

Table 1 -- Number of counties, by type, and population, 1982

County type	Number of counties and population		
		Population, July, 1982	
	Number of counties	Total	As percentage of total
	Number	Millions	Percent
All counties	3,119	231.7	100.0
Metro counties	731	176.2	76.1
Greater	234	103.6	44.7
Core	52	64.5	27.8
Fringe	182	39.1	16.9
Medium	294	51.3	22.1
Lesser	203	21.4	9.2
Nonmetro counties	2,388	55.5	23.9
Urbanized	292	19.0	8.2
Adjacent to MSA 1/	147	10.7	4.6
Not adjacent to MSA	145	8.3	3.6
Less urbanized	1,323	30.0	13.0
Adjacent to MSA	559	14.6	6.3
Not adjacent to MSA	764	15.5	6.7
Totally rural	773	6.4	2.8
Adjacent to MSA	221	2.4	1.1
Not adjacent to MSA	552	4.0	1.7
Agriculture dependent	695	7.9	3.4
Manufacturing dependent	665	21.7	9.3
Mining dependent	204	4.1	1.8
Government dependent	311	7.4	3.2
Federal lands	255	4.8	2.1
Persistent low income	239	3.6	1.6
Retirement destination	486	12.1	5.2
Ungrouped	357	9.2	4.0

1/ Metropolitan Statistical Area.

County type	Definition
Metropolitan Counties	
Core	Central counties of metropolitan areas of 1 million, or more, population.
Fringe	Fringe counties of " " " " " "
Medium	Counties in metropolitan areas of 250,000 to 1,000,000 population.
Lesser	" " " " less than 250,000 population.
Nonmetropolitan Counties	
Urbanized	Urban population of 20,000 or more.
Less urbanized	Urban population of less than 20,000 but more than 2,500.
Totally rural	Urban population of less than 2,500.

Note: Adjacency was determined by physical boundary adjacency and a finding that at least 2 percent of employed labor commuted to work to a metro county.

County type	Definition
Agriculture dependent	At least 20 percent of labor and proprietor income from farming, 1975-79.
Manufacturing dependent	" " " " " " manufacturing, 1979.
Mining dependent	" " " " " " mining, 1979.
Government dependent	" " " " " " government, 1979.
Federal lands	" " 33 percent of the land is Federally owned.
Persistent low income	Per capita income in bottom quintile in 1950, 1959, 1969 and 1979.
Retirement destination	At least 15 percent of population aged 59 or older, 1980, due to immigration from 1970 to 1980.
Ungrouped	Did not meet any of the above criteria.

of current expenditures and intergovernmental aid are presented in both nominal and constant 1987 dollars.[19]

State Level Data

Because local school finance data are only available for 1982, this paper also makes a comparison of public school finance using State level data. Data on local government expenditures and revenues for education, aggregated to the State level, are available for 1987 from the National Education Association and the National Center for Education Statistics.[20] These sources provide consistent series on State-wide totals of local government education finances, and other series related to education. While analysis based on State-wide data permits the use of more recent information, State-wide data obscure the within State variations in education financial data. It is impossible to determine changes in the distribution of expenditures, or revenues, between metro and nonmetro counties, or any other breakdown of local areas using State-wide data. However, inferences about changes in the distribution of per

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[19] Constant dollar figures are derived by deflating current dollar data by the Implicit Price Deflator for State and Local Government Purchases of Goods and Services from the U.S. Department of Commerce. See: U.S. Department of Commerce, Bureau of Economic Analysis. Business Conditions Digest, January 1988, page 101; and Survey of Current Business, April 1989, p 10.

[20] See: National Education Association. Estimates of School Statistics, Washington, DC. Annual; and National Center for Education Statistics, Digest of Education Statistics, Washington, DC Annual.

pupil education expenditures and revenues between metro and nonmetro areas can be drawn from changes in education data by type of State.

What this paper does is classify States by major social and economic characteristics similar to the county groupings described previously. The categories of States used in this paper are: Rural/small-town (rural), Urban/Metro (urban), other, farm dependent (farm), low income, and retirement destination (Retirement). These classifications are described in a previous study; the classifications of each State and the definitions are provided in Table 2.[21]

By so doing, we can get as estimates of what county data might show. For example, if the data show that per pupil expenditures have increased faster in Urban States than in Rural States, one can infer that growth in per pupil expenditures in metro counties exceeded the growth in nonmetro counties. Similarly, if growth rates in low income States lagged the national average, one can infer that growth in nonmetro low income counties also lagged the national average growth.

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[21] Dubin, Elliott. The Geographic Distribution of Federal Funds in 1985, Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. ERS Staff Report AGES 89-7, p. 32.

Table 2 -- Classification of States 1/

State	Population July 1986 (thousands)	Rural/ Small town	Urban/ Metro	Other	Farm dependent	Persistent low income	Retirement destination
Alabama	4,052			X		X	
Alaska	534			X			
Arizona	3,319		X				X
Arkansas	2,372	X			X	X	X
California	26,981		X				
Colorado	3,267		X				
Connecticut	3,189		X				
Delaware	633			X			
District of Columbia	626		X				
Florida	11,675		X				X
Georgia	6,104			X			
Hawaii	1,062		X				X
Idaho	1,002	X			X		
Illinois	11,552		X				
Indiana	5,504			X			
Iowa	2,851	X			X		
Kansas	2,460	X			X		
Kentucky	3,729	X				X	
Louisiana	4,501			X			
Maine	1,173	X					
Maryland	4,463		X				
Massachusetts	5,832		X				
Michigan	9,145			X			
Minnesota	4,214			X	X		
Mississippi	2,625	X			X	X	
Missouri	5,066			X			
Montana	819	X			X		
Nebraska	1,598	X			X		
Nevada	963		X				X
New Hampshire	1,027	X					
New Jersey	7,619		X				
New Mexico	1,479	X					X
New York	17,772		X				
North Carolina	6,333	X					
North Dakota	679	X			X		
Ohio	10,752			X			
Oklahoma	3,305			X			
Oregon	2,698			X			
Pennsylvania	11,888			X			
Rhode Island	975		X				
South Carolina	3,377	X				X	
South Dakota	708	X			X		
Tennessee	4,803			X		X	
Texas	16,685		X				
Utah	1,665		X				
Vermont	541	X					
Virginia	5,787			X			
Washington	4,462			X			
West Virginia	1,918	X				X	
Wisconsin	4,785			X			
Wyoming	507	X					
Total population	241,076	35,198	117,645	88,233	19,328	22,786	20,870

1/ Rural: 41 percent, or less, of the State's population (1980) residing in urban places within metropolitan areas as defined in 1980.
Urban: 70 percent, or more, of the State's population (1980) residing in urban places within metropolitan areas as defined in 1980.
Other: More than 41 percent and less than 70 percent of the State's population residing in urban places within metropolitan areas as defined in 1980.
Farm dependent: States with labor earnings from farming greater than 6 percent of total labor earnings (1975-1979).
Persistent low income: States with per capita personal income in bottom quintile in 1959, 1969, 1979, and 1985.
Retirement destination: States with 15 percent or more of aged (over 59) population in 1980 due to inmigration from 1970 to 1980.

Source: U.S. Department of Agriculture, Economic Research Service and U.S. Department of Commerce, Bureau of the Census and Bureau of Economic Analysis.

Data on current expenditures per pupil in average daily attendance for school years 1969-70, 1979-80, and 1986-87, in current dollars and constant 1987 dollars are examined (see footnote 19). Average annual rates of change from 1969-70 to1979-80 and from 1979-80 to 1986-87, in current and constant dollars are also presented. This paper also presents State level information on the sources of revenue for education (Federal, State, and local).[22]

Findings: County Level

Spending Patterns by Type of County

In 1982, school districts in metro counties outspent their nonmetro counterparts, on average, by $231 per pupil, or 11 percent (Table 3). Core counties of large metro areas spent 6.7 percent more than the average for all metro counties, and 18.6 percent more than the average for all nonmetro counties. Per pupil education spending levels in medium and small metro counties are about equal to those of nonmetro areas.

Among nonmetro counties, those which are adjacent to metro counties spent about 5 percent less, per pupil, than the nonadjacent counties, regardless of their degree of urbanization.

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[22] Local government revenues for education exclude noncash transactions such as receipts of services, commodities, or other "in kind" receipts, funds received from the issuance of debt, liquidations of investments, and nonroutine sales of property. U.S. Department of Education, Office of Educational Research and Improvement. The Condition of Education, 1987 Edition, p. 231.

Adjacent counties are in competition with their metro neighbors for attracting and keeping residents and businesses. Thus, they tend to keep tax rates lower than their neighboring metro counties, reducing their ability to fund education.[23] Also, nonmetro counties adjacent to metro counties may be able to use some of the services available in nearby metro areas e.g., libraries and facilities for special and vocational education which reduces the need for direct educational spending in these areas.[24]

Farm dependent, mining dependent, and Federal lands counties spent more for education than other types of nonmetro counties. These counties tend to be sparsely settled, which increases the costs of providing public services because they cannot benefit from economies of scale.[25] In addition, rapidly rising energy prices during the period 1977 to 1982 increased the fiscal capacity of many of the mining and Federal lands counties, enabling them to spend more for education.

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[23] See, footnote 13. Reeder, Richard. Rural and Urban Government Fiscal Trends, 1977-1982. 1988, pp. 19, 38.

[24] Ibid., p. 20.

[25] In 1980, population density in nonmetro counties was 19.1 persons per square mile. Population density in nonmetro farm-dependent counties was 12.3 persons per square mile in 1980. In nonmetro mining-dependent and Federal lands counties, population densities were 10.8 and 4.2 persons per square mile respectively in 1980.

Table 3--Local government expenditures for elementary and and secondary education, by type of county, 1982 and change from 1977, in constant 1982 dollars 1/

Type of county	Expenditures per pupil	Change from 1977	
		Percent	Dollars
	dollars	constant dollars	
All counties	2,258	-6.9	-168
Metro counties	2,315	-8.5	-215
Large metro areas	2,466	-10.1	-276
Core	2,471	-9.9	-272
Fringe	2,460	-10.2	-280
Medium metro areas	2,104	-6.6	-149
Small metro areas	2,105	-3.1	-67
Nonmetro counties	2,084	-1.7	-36
Urbanized/adjacent	2,086	-5.7	-127
Urbanized/nonadjacent	2,155	-0.4	-8
Less urbanized/adjacent	1,991	-2.6	-52
Less urbanized/nonadjacent	2,114	0.6	12
Totally rural/adjacent	2,094	-0.0	-1
Totally rural/nonadjacent	2,153	-0.0	-1
Nonmetro counties			
Farm dependent	2,218	-2.6	-58
Manufacturing dependent	1,968	-2.8	-57
Mining dependent	2,200	5.9	123
Government dependent	2,073	-2.2	-46
Federal lands	2,479	0.1	2
Persistent low income	1,703	4.6	74
Retirement destination	2,029	-4.1	-87
Ungrouped	2,151	-1.2	-25

1/ In 1982 dollars. Data for 1977 adjusted by Implicit Price Deflator for State and Local Government Purchases of Goods and Services.

Source: USDA Economic Research Service from data from the U.S Department of Commerce, Bureau of the Census and Bureau of Economic Analysis.

Low income counties spend less for education than other nonmetro counties because their low incomes and lack of taxable wealth make it difficult for them to raise revenues to fund education.

Retirement destination counties rank among the lowest in education spending per pupil. Their relatively low level of education spending in these counties is not unexpected. Retirees who migrate from one area to another would not be expected to have the attachment to their new communities which would make them willing to tax themselves to support a public service for which they receive no direct benefits.[26]

For the nation as a whole, metro counties spent approximately 11 percent more per pupil than their nonmetro counterparts (Table 3). However, this masks regional variation; nonmetro counties actually outspent metro counties in 5 of the 9 Census Divisions (see map 9). For example, in the Rocky Mountain Census Division, per pupil spending levels in nonmetro counties exceeded metro levels by 14 percent; in the Pacific Division the differences were somewhat smaller--7 percent (Appendix Tables 1 and 2). Expenditures per pupil in nonmetro counties were also slightly higher than the metro levels in the West North Central, East South Central, and West South Central Census Divisions. As will be discussed later, the explanation for these higher nonmetro expenditures lies in the high costs of providing education in sparsely settled areas.

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[26] Reeder, Richard and Nina Glasgow. "The Economic Development Consequences of Growing Elderly Populations in Nonmetro Counties," Paper presented at the annual meeting of the Southern Regional Science Association, Chapel Hill, NC, April 1989, p. 21.

The range of per pupil spending variations, by county type, among Census divisions is also much greater than indicated by national averages. In 1982, per pupil spending in totally rural/adjacent nonmetro counties in the Pacific Division, the highest among all nonmetro county groups, was 172 percent greater than the level of urbanized/adjacent counties in the East South Central Division, the lowest among all nonmetro county groups (Appendix Table 1). Similar, but somewhat smaller differences in per pupil education spending levels existed among metro counties. Suburban (fringe) counties of large metro areas in the Mid Atlantic Division, the highest among metro county groups, spent about 137 percent more, per pupil, than suburban counties in the East South Central Division, the lowest among metro county groups (Appendix Table 1).

Changes in Per Pupil Spending, 1977-1982

The gap in per pupil spending levels between metro and nonmetro counties narrowed between 1977 and 1982 (Table 3 and Fig. 1). In 1977, per pupil spending in nonmetro counties was 12.6 percent below the national average; in 1982 the gap was 7.7 percent. Per pupil spending levels,in constant 1982 dollars, fell by 1.7 percent in nonmetro counties between 1977 and 1982 compared to 8.5 percent in metro counties. In the sparsely settled mining dependent counties, per pupil education spending grew by 6 percent in constant dollars during this period (Fig. 2). Education spending per pupil rose by less than 5 percent in

Figure 1

Current education expenditures per pupil, 1977 and 1982

Constant 1982 dollars

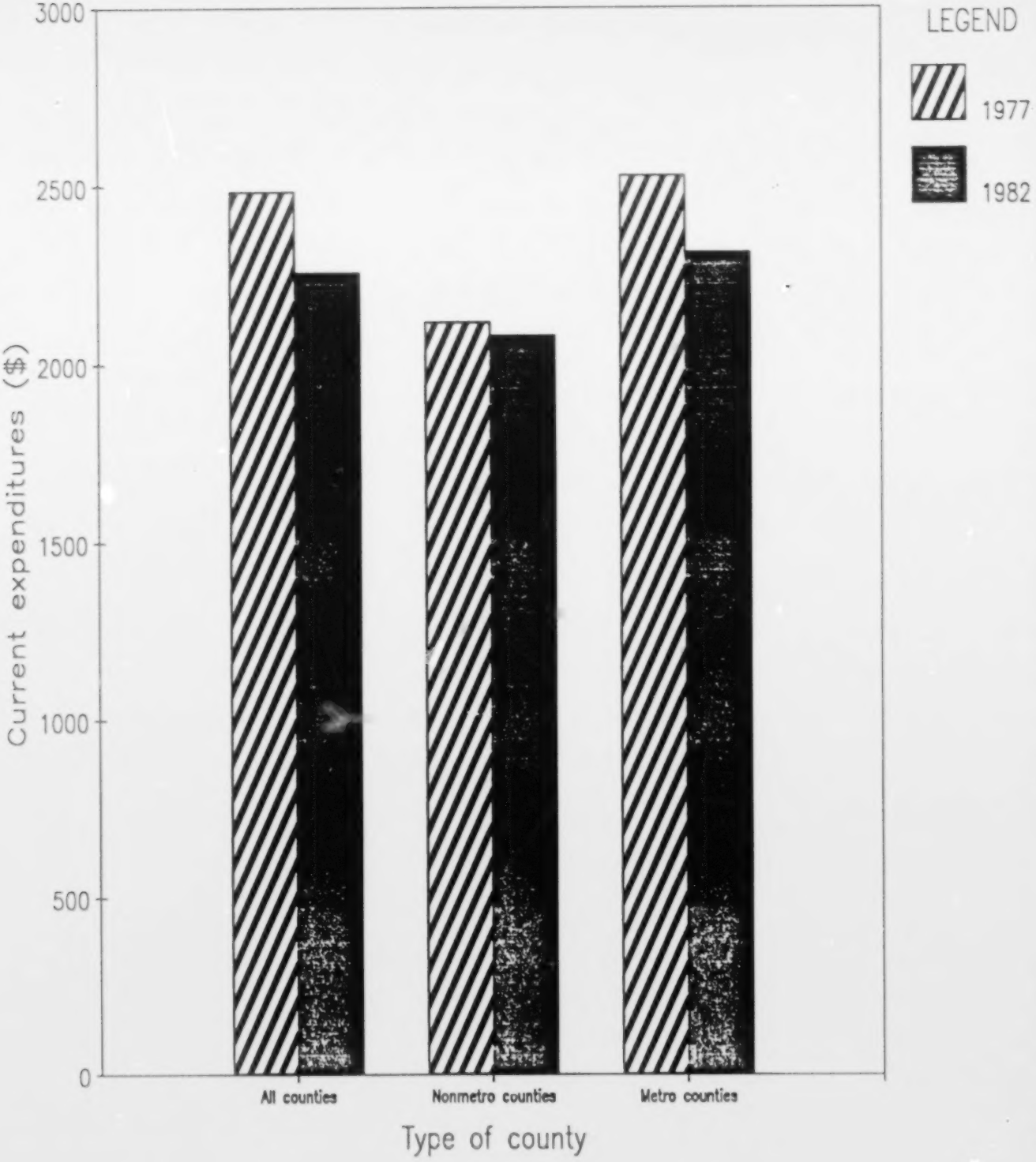
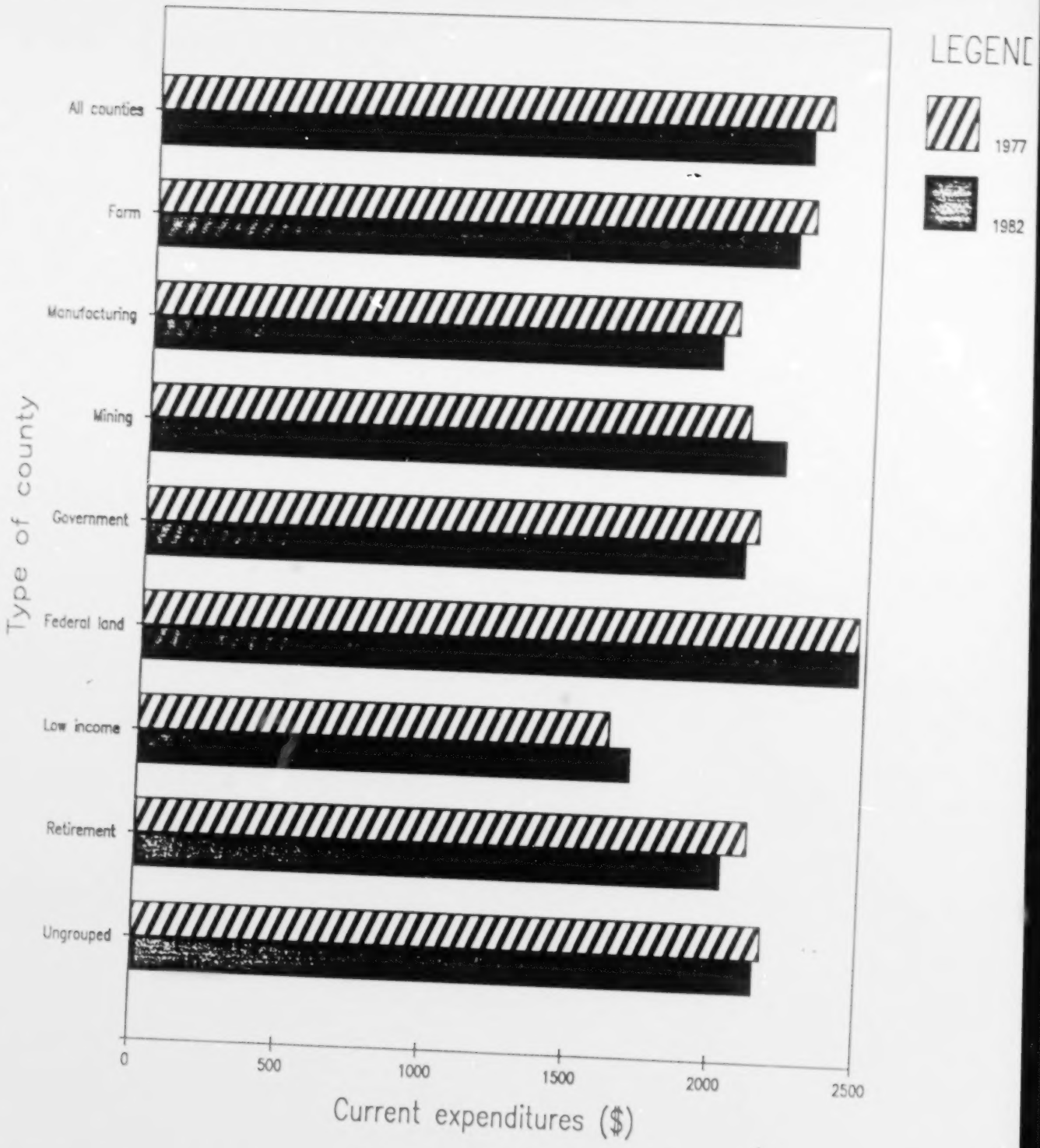


Figure 2

Current expenditures per pupil by type of nonmetro county
1977 and 1982
(Constant 1982 dollars)



constant dollars in persistent low income counties. Despite the growth in per pupil spending in low income counties between 1977 and 1982, education spending levels lagged the national average by 25 percent in 1982. In 1977, the gap between low income counties and the national average was approximately 33 percent.

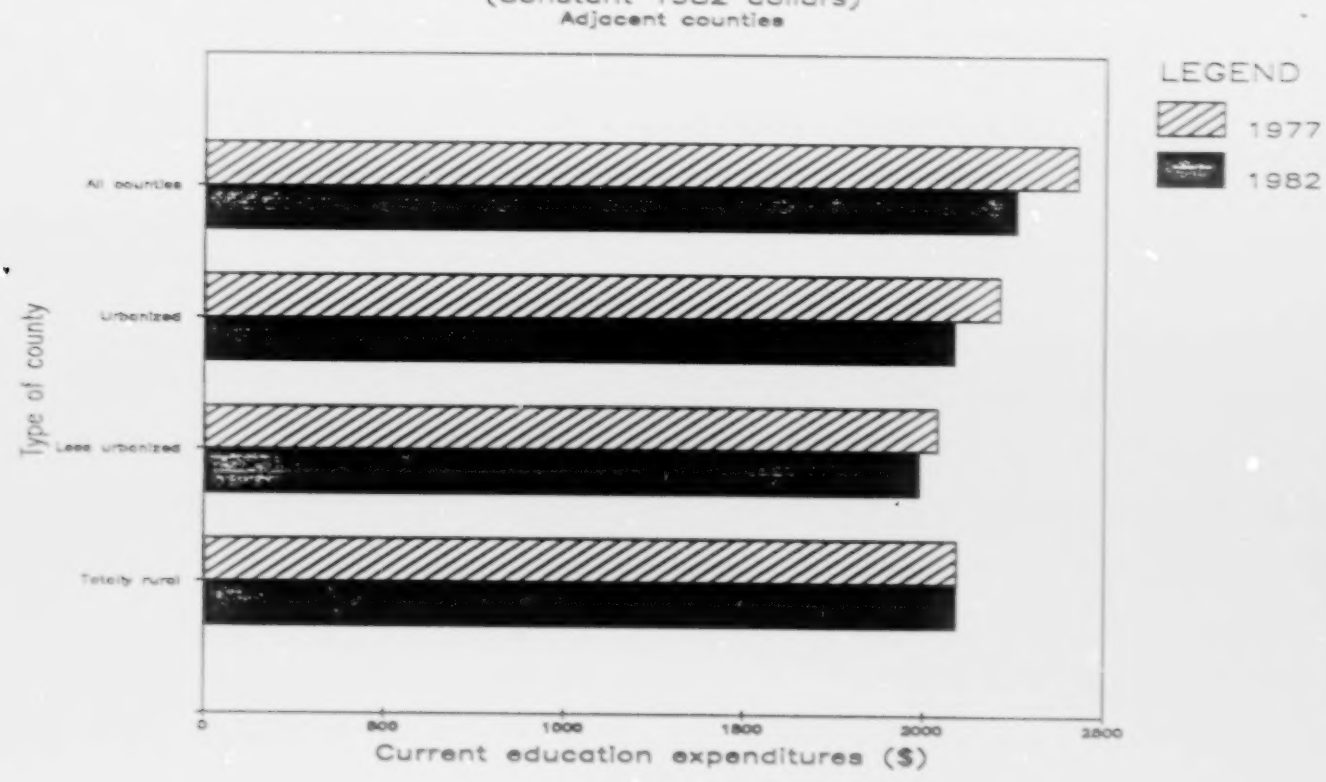
Per pupil education expenditures fell by nearly 6 percent, in constant dollars, in urbanized/adjacent counties, and by nearly 3 percent in less urbanized/adjacent counties between 1977 and 1982 (Table 3 and Fig. 3). During this period, per pupil education expenditures, in constant dollars, remained approximately constant in the other county groups (Fig. 3).

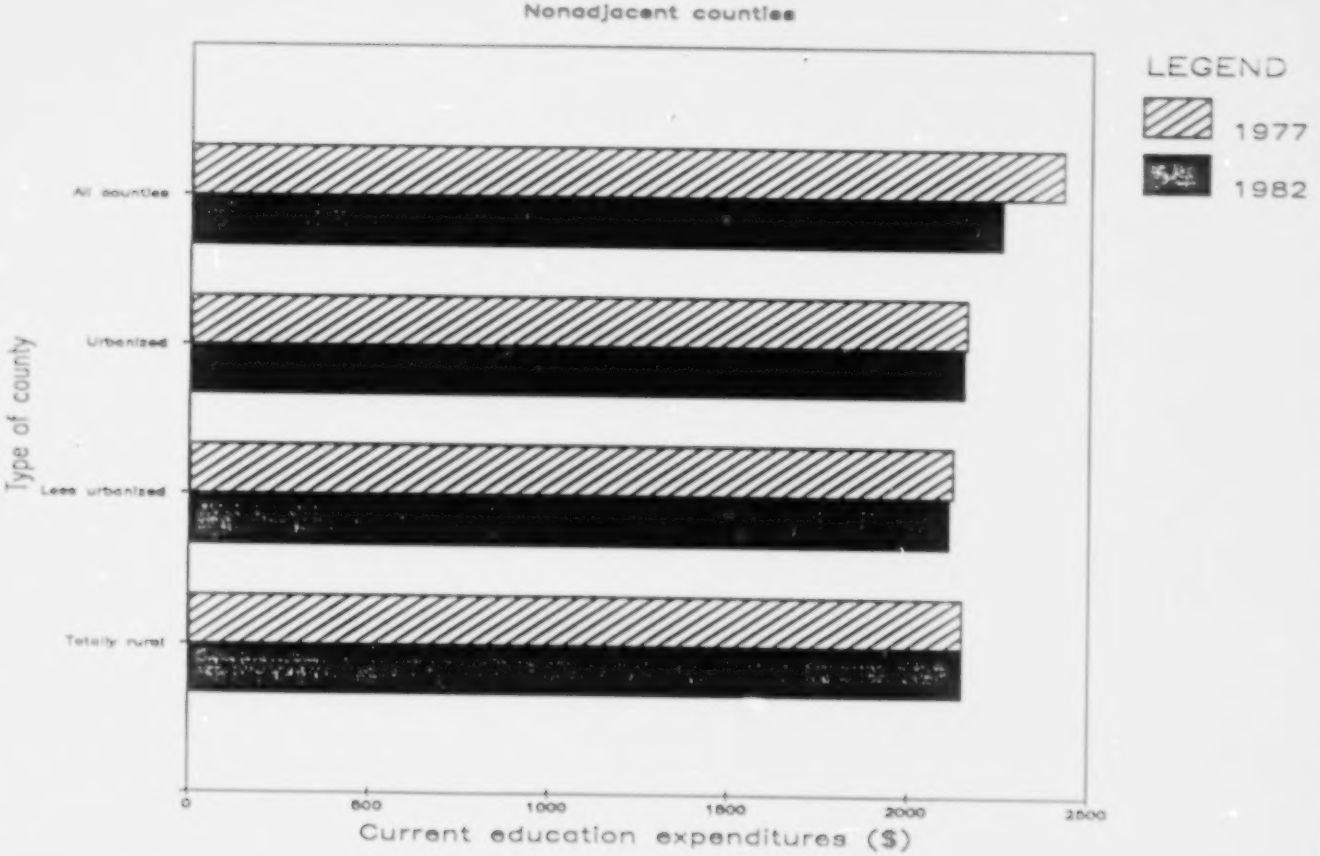
This narrowing of differences in average per pupil spending levels between metro counties and nonmetro counties was repeated in all areas of the country, except for the West South Central, West North Central, and Mid Atlantic Census Divisions (Appendix Tables 1 and 2).[27] In the Mid Atlantic Division, per pupil spending in metro counties fell by about 8 percent in constant dollars and by about 11 percent in nonmetro counties. Among nonmetro counties, the highest growth in education spending per pupil was in urbanized/nonadjacent counties in the Rocky Mountain Division, 20 percent in constant dollars. Conversely, per pupil education expenditures in totally rural/nonadjacent counties in

[27] Data on per pupil expenditures for 1977, and the percentage change from 1977 to 1982 are presented in nominal dollars in these Appendix Tables.

Figure 3

Current expenditures in nonmetro counties, 1977 and 1982
(Constant 1982 dollars)





the East North Central Division, showed a decrease of 17 percent in constant dollars. This change was the smallest recorded by any county group during this period.

Comparisons of per pupil expenditures for elementary and secondary education between metro and nonmetro counties and among different types of nonmetro counties do not necessarily present an accurate description of the level of education services provided. A more accurate measure of the level of education services provided by a local jurisdiction would include an estimate of the costs of providing education. The next section looks at how education expenditures and costs vary with the number of pupils served and the geographic area of local jurisdictions.

Education Costs and Enrollments

Low population density in rural areas compounds the problem of low fiscal resources in providing education. The costs of providing education in sparsely settled areas are higher than in more densely populated areas.[28] As noted by Tompkins, costs of providing education in sparsely settled rural areas are higher

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[28] Costs of education refer to the provision of equal quantities and quality of services. Fox states that sparsely settled rural areas face higher costs of providing education than more densely settled areas. See: Fox, William. Relationship Between Size of Schools and School Districts and the Costs of Education. U.S. Department of Agriculture, Statistics and Cooperative Service. Technical Bulletin No. 162, April 1980, page 20.

than in other areas because: 1) rural areas have higher ratios of professionals to pupils; 2) transportation costs per pupil mile are high because of underutilized capacity; 3) providing for interschool athletics, a wide range of subjects, and services for pupils with special needs (learning disabilities, physical handicaps, and gifted and talented) is costly because of small target populations and lack of specialists.[29] Enrollment size and density also affect costs in terms of the types of services provided. In the school districts studied by Monk, small increases in enrollment lead to more than proportional increases in the relatively more costly services provided (foreign languages, sciences, mathematics, and special education).[30] However, as Monk correctly points out, there may be a bias in the selection process because parents of children with special needs may choose to live in relatively large school districts where these services are available.[31]

One would expect that the higher costs of providing education experienced by rural areas would be reflected in higher expenditures for education. A "U" shaped pattern emerges for

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[29] Tompkins, Rachel B. "Coping With Sparsity: A Review of Rural School Finance," Education in Rural America: A Reassessment of Conventional Wisdom. Jonathan P. Sher. editor. Westview Special Studies in Education. Boulder CO. 1977, page 143.

[30] Monk, David H. "School District Enrollment and Inequality in the Supply of Classes," Economics of Education Review, Vol. 6, No. 4, 1987, pp. 369-375.

[31] Ibid. page 370.

expenditures per pupil when counties are grouped by enrollment size and enrollment density (Figs. 4 and 5).[32] As enrollments rise, school districts can take advantage of economies of size so that per pupil costs, and expenditures fall until at a certain enrollment size, a minimum is reached. Above that level of enrollment size and density, increasing costs and expenditures occur.[33]

For nonmetro counties, expenditures per pupil fall as enrollment size increases, except for the largest enrollment size class. This inverse relationship exists over the entire spectrum of enrollment densities (Fig. 5). For metro counties, expenditures per pupil increase as enrollment size increases (Fig. 4). When metro counties are grouped by enrollment density, the "U" shaped pattern emerges. This seems to support the hypothesis of the "U" shaped cost curve. Sparsely settled rural counties and densely populated metro counties are faced with relatively higher costs, and higher expenditures for education.

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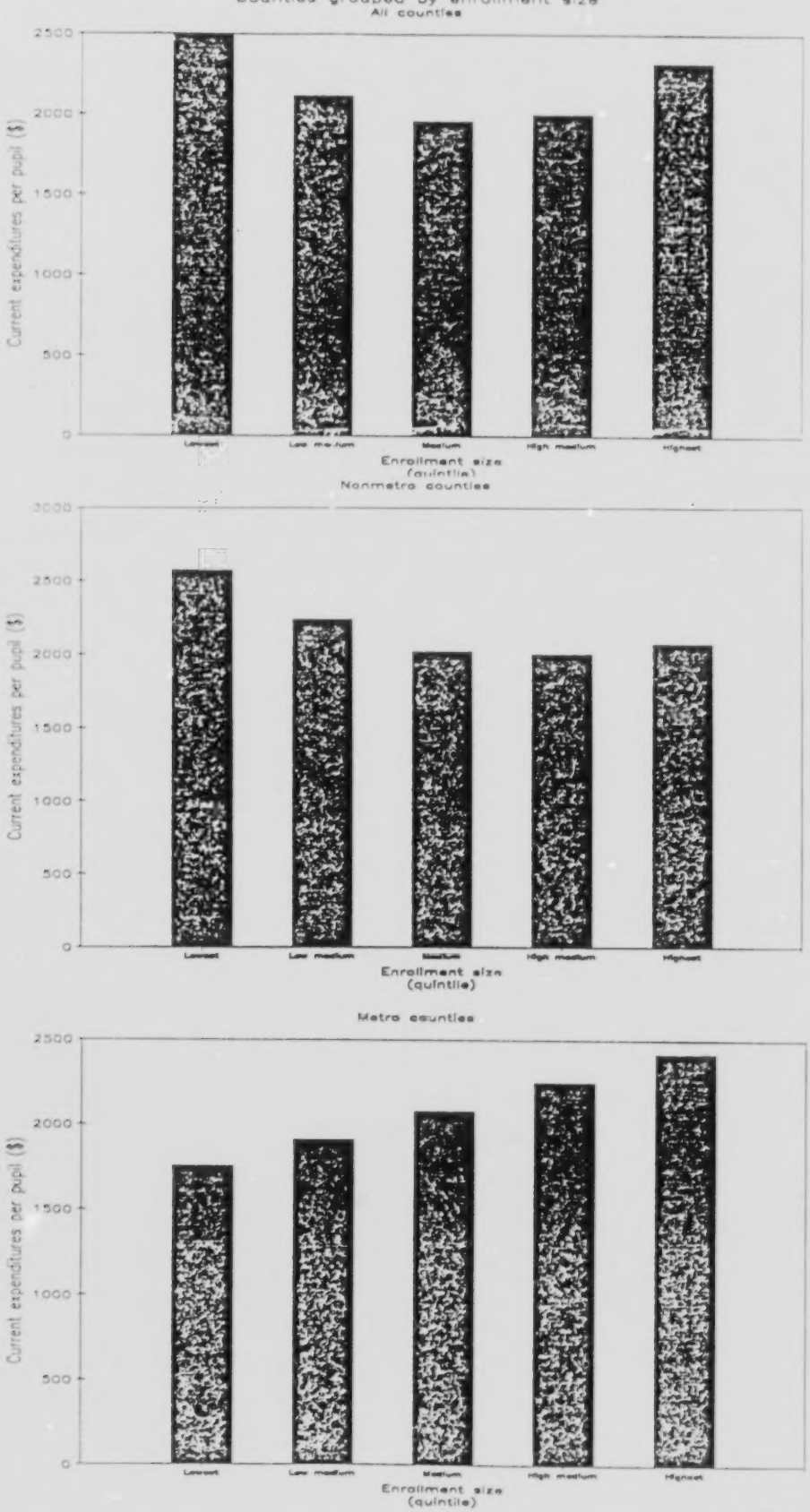
[32] Per student education costs also exhibit a "U" shaped pattern across school districts grouped by enrollment size and enrollment density. Because per pupil expenditures are related to costs, it is expected that the pattern of expenditures across school districts based on size or density would also be "U" shaped. See, Fox, pp. 17, 18.

[33] In 1982, the simple correlation coefficient between enrollment density and per capita personal income was .24, for all counties; the simple correlation coefficient between per pupil expenditures and per capita personal income for all counties was .40 in 1982. Therefore, higher incomes in more densely settled areas, may also result in higher spending levels in the more densely settled areas.

Figure 4

Current education expenditures per pupil, 1982

Counties grouped by enrollment size



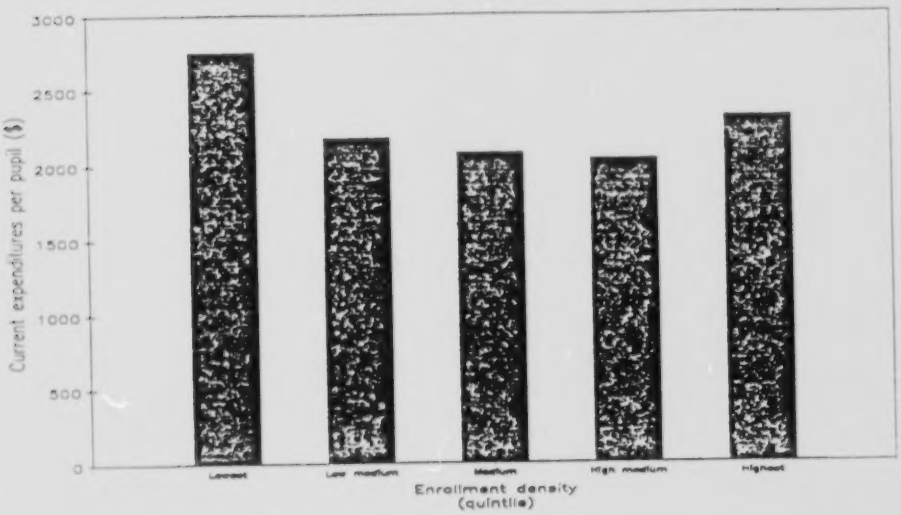
See Appendix Table 5.

Figure 5

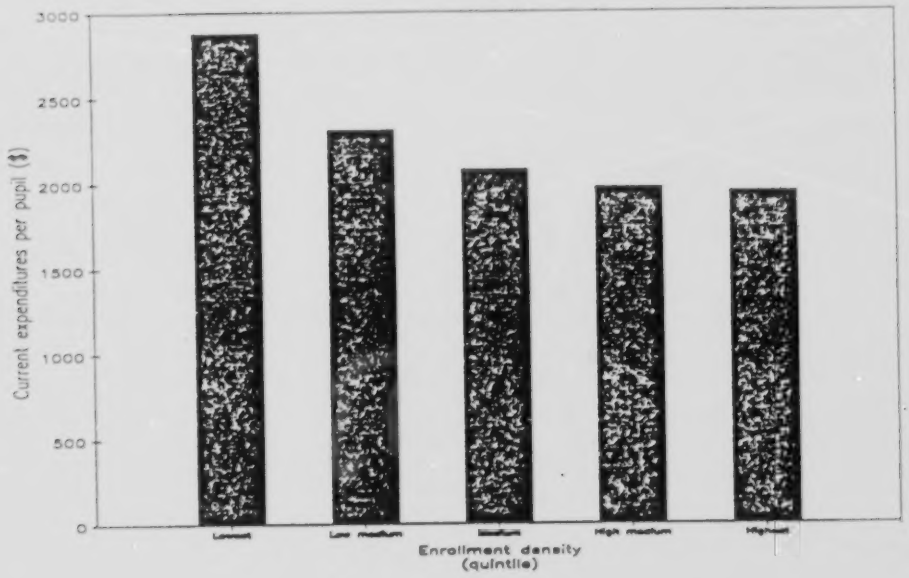
Current expenditures per pupil, 1982

Counties grouped by enrollment density

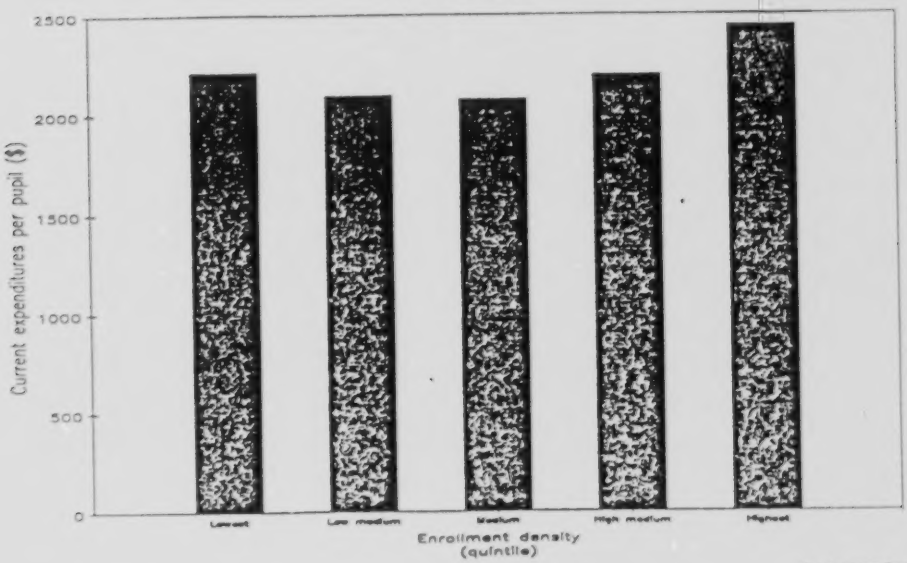
All counties



Nonmetro counties



Metro counties



See Appendix Table 8.

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While local governments have the primary responsibility of providing elementary and secondary education, State and direct Federal aid provide most of the education funds. The next section looks at the relative importance of State education aids, recent trends in State aid, and the purposes of State aid for education.

State Aid for Education

State aid to local governments for primary and secondary education is the most important element of local government funding of education. In 1987, 50 percent of all local government school funding came from State sources.[34] This proportion has increased consistently from 1972, when State funds supplied 38 percent of all local government revenues for education.[35] Direct Federal funds as a proportion of local government revenues for education grew from 8 percent in 1970 to about 10 percent in 1980 but has since declined steadily to about 6 percent in 1987.[36]

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[34] State aid to local governments includes Federal aid to State governments which is subsequently spent in local areas. Direct Federal aid to local governments is relatively small, constituting about 6.2 percent of local government revenues for education. National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement. The Condition of Education, Elementary and Secondary Education, 1988. Vol 1, p. 94. (See Table 11 for details).

[35] Ibid. p. 94.

[36] Ibid. p. 94.

For the nation as a whole, State aid for education was more important for nonmetro areas than for metro areas in 1982 (Table 4). State education aid in metro counties averaged 55 percent of local government current expenditures for education; in nonmetro counties, the corresponding figure was 64 percent.[37] State aid accounted for 83 percent of local government current expenditures for education in 1977 and 1982 in persistent low income nonmetro counties, the highest proportion of any county group. But,even these high levels of State education aid left persistent low income counties spending about 25 percent less, per pupil, than the national average 1982. This low level of expenditures reflects the extremely low level of spending from own sources (total current expenditures less State education aid and direct Federal aid) found in persistent low income counties, $236 per pupil (compared to $940 per pupil for the entire nation).[38]

School systems in New England (Northeast Census Division) relied on State education aid for 38 percent of their current

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[37] There is a bias in these ratios because some State aid is for construction purposes while the data on current expenditures excludes construction spending.

[38] Education effort (current expenditures for education as a percentage of personal income) was 6.2 percent in persistent low income counties in 1982, the highest level of all county groups and about 50 percent higher than the national level of education effort in that year--4.1 percent. However, education effort from own sources in persistent low income counties was less than 1 percent, the lowest among all county groups, and only 56 percent of the national level of 1.7 percent.

Table 4--State and Federal aid for elementary and secondary education by type of county, 1982 and change from 1977, in constant 1982 dollars 1/

Type of county	State aid per pupil	Change from 1977		Federal aid per pupil	Change from 1977	
		Percent	Dollars		Percent	Dollars
	dollars	constant	dollars	dollars	constant	dollars
All counties	1,288	1.5	19	29	-36.1	-16
Metro counties	1,277	1.5	19	29	-38.1	-18
Large metro areas	1,306	2.6	33	31	-35.9	-17
Core	1,456	6.5	89	37	-33.9	-19
Fringe	1,081	-4.2	-47	20	-42.5	-15
Medium metro areas	1,207	-1.0	-12	27	-40.5	-18
Small metro areas	1,309	2.2	28	29	-38.1	-18
Nonmetro counties	1,323	1.6	21	29	-31.5	-13
Urbanized/adjacent	1,269	-1.1	-14	18	-40.5	-12
Urbanized/nonadjacent	1,381	3.9	52	51	-31.2	-23
Less urbanized/adjacent	1,306	-1.3	-17	18	-40.5	-12
Less urbanized/nonadjacent	1,352	3.9	51	33	-29.6	-14
Totally rural/adjacent	1,340	0.2	3	19	-47.7	-17
Totally rural/nonadjacent	1,283	6.0	73	34	-25.1	-11
Nonmetro counties						
Farm dependent	1,402	7.8	101	27	-6.0	-2
Manufacturing dependent	1,254	-2.5	-32	16	-29.5	-7
Mining dependent	1,380	7.9	101	40	-38.5	-25
Government dependent	1,479	3.8	54	70	-35.7	-39
Federal lands	1,641	13.5	195	71	-33.9	-36
Persistent low income	1,407	4.4	59	32	-29.5	-13
Retirement destination	1,292	-0.6	-7	28	-47.1	-25
Ungrouped	1,311	1.5	19	30	-20.7	-8

1/ In 1982 dollars. Data for 1977 are adjusted by Implicit Price Deflator for State and Local Government Purchases of Goods and Services.

Source: USDA, Economic Research Service from data from the U.S. Department of Commerce, Bureau of the Census and Bureau of Economic Analysis.

expenditures, the lowest proportion among all Census Divisions. Conversely, State education aid provided 72 percent of local government education expenditures in the Pacific Division, the highest proportion of any Census Division. These regional differences are magnified when only nonmetro counties are examined. State education aid per pupil averaged 16 percent of current expenditures in totally rural/adjacent counties in New England, the lowest of all county groups. The highest ratio of State education aid to local government current expenditures for education was in totally rural/adjacent counties in the Pacific Division--80 percent (Appendix Table 4).

Changes in State Aid

The growth in State aid per pupil reflects the increased emphasis States have placed on elementary and secondary education. State aid per pupil increased by 1.5 percent, in constant dollars, from 1977 to 1982 (Table 4).[39] The metro/nonmetro differences in the growth of State aid per pupil were minimal (Fig. 6). For metro counties, the growth in State aid for education occurred in the core counties of large metro areas while their suburban areas experienced a significant fall (in constant dollars) in State aid per pupil (Table 4). Among nonmetro county groups, farm dependent, mining dependent, and Federal lands counties experienced significant increases in State aid per pupil (Fig. 7). Urbanized nonmetro counties and less urbanized/adjacent counties experienced declines in State education aid per pupil, while less urbanized/nonadjacent and totally rural counties experienced relatively large increases in State aid per pupil (Fig. 8).

The growth in State aid per pupil was not uniform throughout the country. State aid per pupil, in constant dollars, increased by nearly 30 percent in the Pacific Census Division but fell by 15 percent in the East North Central States (Appendix Tables 3 and

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[39] As noted previously, State aid for education includes Federal aid to States that is passed through to local governments (block grants). The increasing use of Federal block grants to States may explain the increase in the relative importance of State aid and the decline in the relative importance of direct Federal aid to local governments.

Figure 6

State aid to education per pupil, 1977 and 1982
(Constant 1982 dollars)

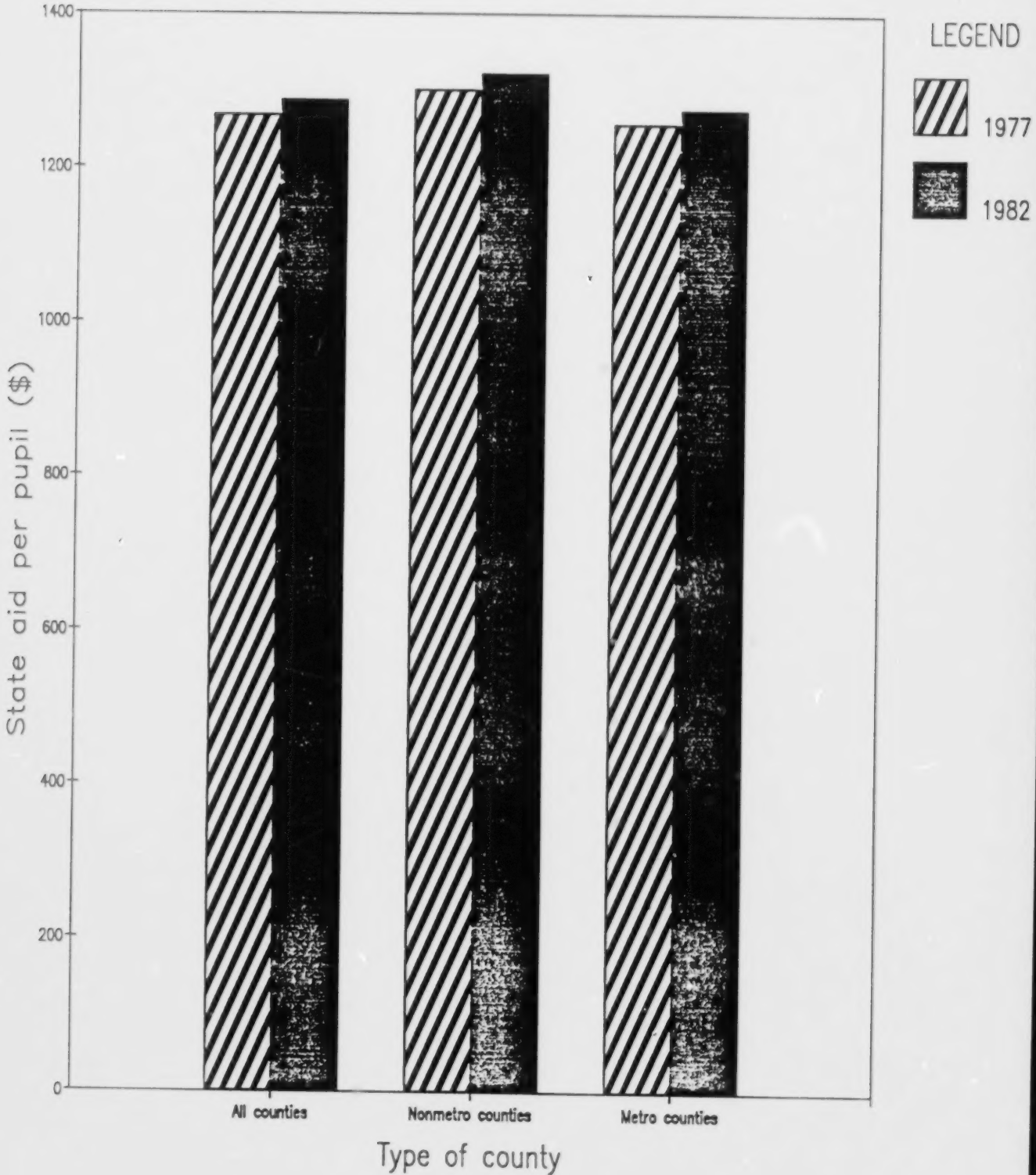


Figure 7

State aid for education per pupil by type of nonmetro county
1977 and 1982
(Constant 1982 dollars)

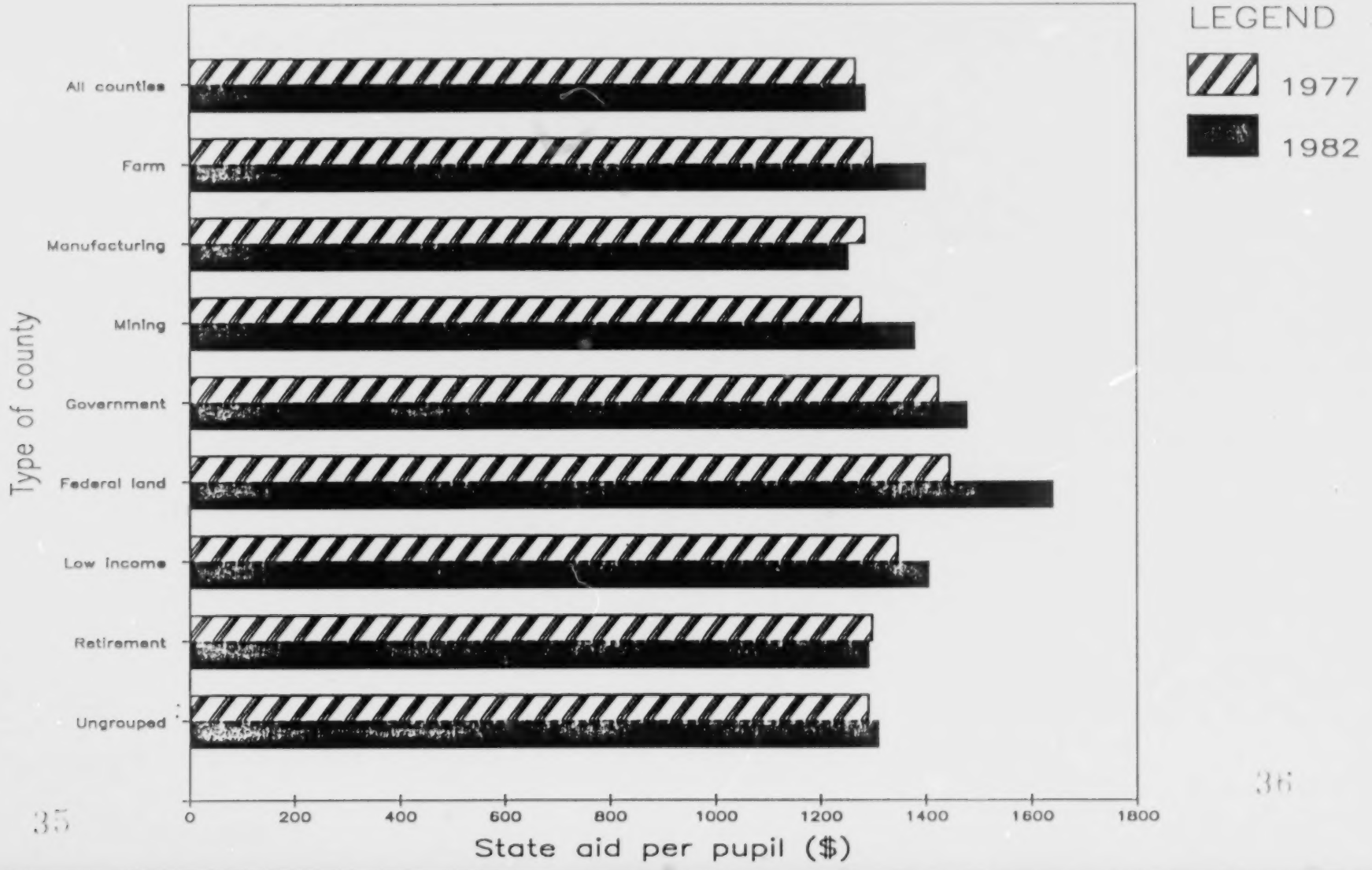
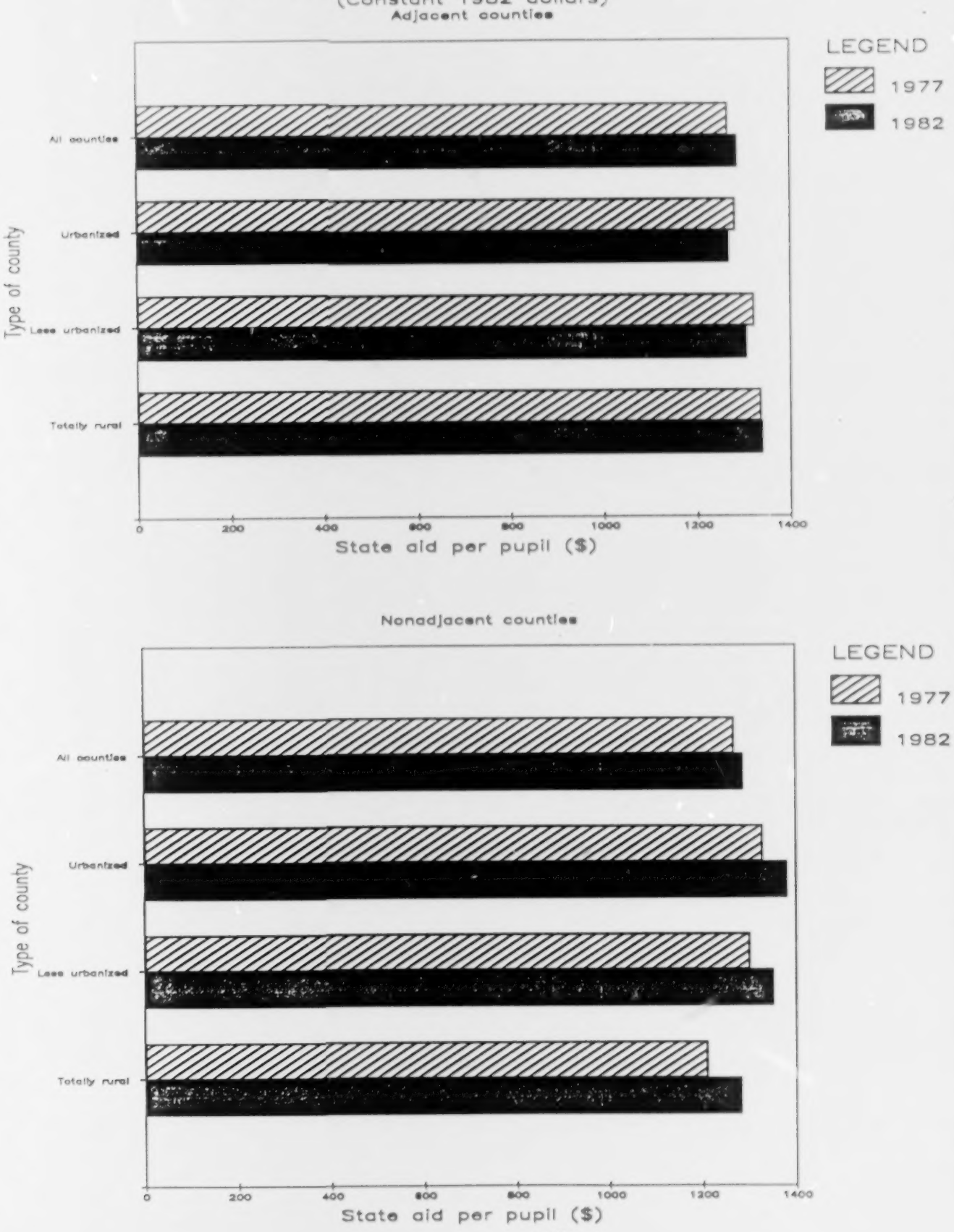


Figure 8

State aid per pupil in nonmetro counties, 1977 and 1982
(Constant 1982 dollars)



4). The largest decline in per pupil State aid for education occurred in retirement counties in the Northeast, nearly 28 percent in constant dollars. Conversely, government dependent counties in the Pacific Division experienced a 40 percent (constant dollar) increase in State aid per pupil.

Purposes of State Aid

Aid to local governments from higher levels of government serves two major functions: to equalize fiscal resources among local areas and to correct for "externalities." Primary and secondary education is generally provided by local government units, each having different levels of income and wealth. In the absence of State aid, local education expenditures per pupil will vary directly with average levels of wealth and incomes across communities.[40] Ideally, State aid would compensate for interarea differences in community wealth so that disparities in fiscal resources and fiscal needs are neutralized. In actuality, the bulk of State aid to local governments is based on enrollments and very little is allocated by school district financial needs.[41]

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[40] See, for example: Rubinfeld, Daniel L., Perry Shapiro, and Judith Roberts. "Tiebout Bias and the Demand for Local Public Schooling," Review of Economics and Statistics, Vol LXIX, No. 3, August 1987, p. 427.

[41] Pelissero, John P. and David R. Morgan. "State Aid to Public Schools: An Analysis of State Responsiveness to School District Needs," Social Science Quarterly, 68 (3) September 1987, p. 472.

The externality argument, in simplified terms, goes like this. State aid is given to local governments on the grounds that, without aid, local areas would not provide sufficient levels of education, After students are educated, they often move to other jurisdictions. Hence, local jurisdictions do not capture enough benefits to justify providing socially optimum spending levels on education.[42] Also, voters are believed to demand less than the socially optimum amount of education for their children if they perceive the future benefits as not compensating for taxes, the loss of leisure time, and foregone income.[43]

A comparison of counties grouped by quintiles of per capita personal income shows that State aid for education reduces the disparity in per pupil spending by local governments (Fig. 9). The solid line in each chart represents the percentage difference from the national average of per pupil expenditures from own sources for each income class.[44] The dashed line in each chart represents the percentage difference from the national average of

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[42] Netzer, Dick. "State-Local Finance and Intergovernmental Fiscal Relations," The Economics of Public Finance. The Brookings Institution, Washington, DC 1974, p. 367.

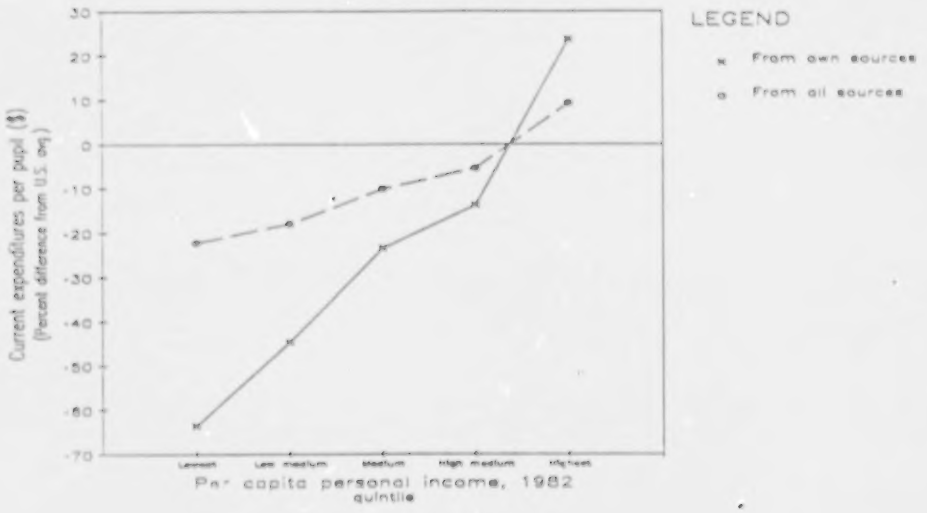
[43] Smith, Eldon D. Economic and Social Infrastructure in the Strategy of Regional Economic Development: An Alternative Theoretical Perspective Relevant to Regional Economies. University of Kentucky, College of Agriculture, Department of Regional Economics. Lexington, KY. Staff Paper No. 250, July 1988, pp. 8 - 16.

[44] Current expenditures from own sources is obtained by subtracting state aid for education, per pupil, from total current expenditures per pupil.

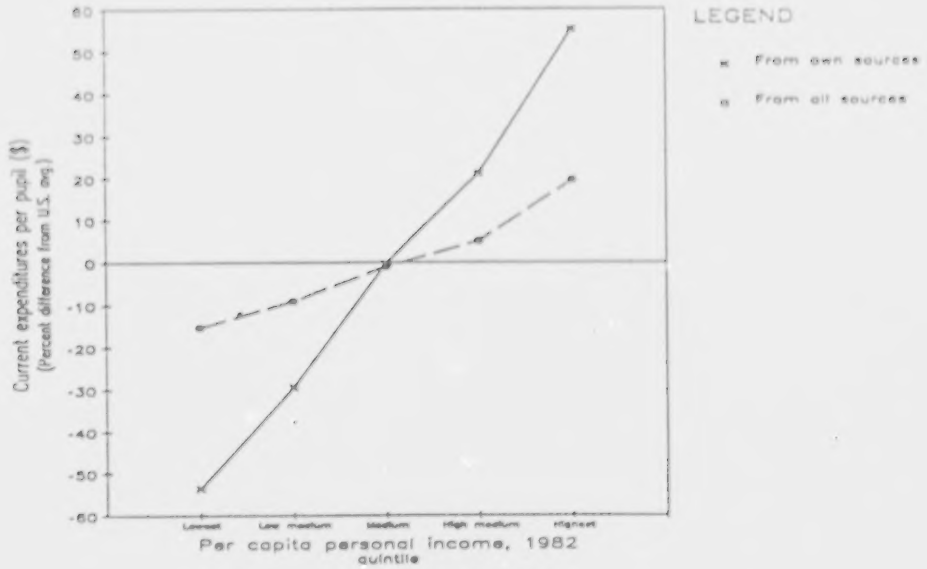
Figure 9

Current expenditures per pupil by county, 1982
(Counties grouped according to per capita personal income)

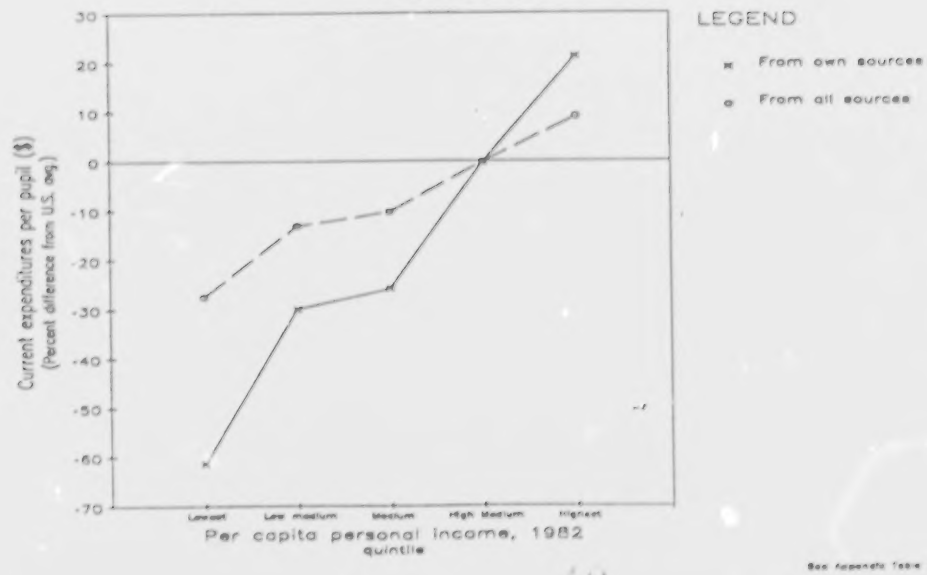
All counties



Nonmetro counties



Metro counties



See Appendix Table 7.

current expenditures per pupil from all sources (including State aid) for each income class. In each instance, the dashed lines are flatter than the solid lines. This implies that State aid for education reduces the relative differences in education spending per pupil across counties grouped by per capita personal income (see Appendix Table 7 for details).[45]

Although States, with some exceptions, attempt to equalize education resources among counties within their borders, the end result leaves poorer counties still spending far less than richer counties (Fig. 9). In the lowest quintile of counties (in terms of per capita income) current expenditures per pupil averaged 22 percent below the national average; in the highest quintile of counties per pupil expenditures averaged 9 percent above the national average. Without State aid, the disparities would be far greater. Per pupil expenditures from local sources only averaged 64 percent below the national average in the lowest quintile of counties. In contrast, per pupil expenditures were 24 percent above the national average in the highest quintile of

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[45] This analysis assumes that if State aid for education to local governments were eliminated, local government expenditures for education would be reduced by that amount. Intergovernmental aid is often viewed as "fungible"; i.e, mainly having the effect of substituting for local funds that would otherwise have been spent on the function. However, in the case of education, intergovernmental aid tends to be additive; i.e., changes in the level of intergovernmental aid do not cause local governments to significantly change the level of education spending from their own sources. See: Cohn, Elchanan. "Federal and State Grants to Education: Are They Stimulative or Substitutive?" Economics of Education Review, Vol. 6, No. 4, 1987, p. 340.

counties. (See Appendix Table 7 for the upper limits of quintiles and average per capita incomes for each quintile).

While the national data indicate that State aid to local governments reduces the county differences in per pupil spending across income classes, this may not necessarily be true for individual States. To test whether State aid for education reduces the differences in per pupil spending among counties, F tests were conducted for each State. The F test, in this instance, measures the ratio of the variance of per pupil education expenditures from all sources (including State aid) to the variance of per pupil expenditures from the county's own sources (excluding State aid). An F ratio less than one suggests equalization; i.e., equalization occurs if the relative dispersion around the mean is reduced when aid is included. Only 16 States meet this criterion (Table 5). In the other 33 States, F ratios are greater than one, indicating that the relative dispersion around the means are greater after State aid is distributed.[46]

In defense of the States, in some cases it may be desirable to increase variations in education spending among counties. For example, States may wish to allocate relatively more aid to areas which spend more due to high costs of providing services, such as

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[46] The State administers local schools in Hawaii and there is only one school district in the District of Columbia.

sparsely settled areas. It might also be noted that most State equalization programs attempt to equalize property assessment ratios and tax rates among jurisdictions and not expenditures.

Less restrictive tests of the equalizing power of State aid would be to determine whether State aid is distributed toward districts with low spending from their own sources, or if State aid is distributed toward districts with relatively low incomes. Under these less restrictive tests, only 11 States distribute aid toward counties with high per pupil spending from their own sources (the correlation coefficient between State aid per pupil and current expenditures per pupil from own sources is positive) and only 10 States distribute aid toward counties with relatively high incomes (the correlation coefficient between per pupil State aid and per capita personal income is positive). In only 5 States, (Indiana, Mississippi, North Dakota, South Dakota, and Washington) is aid directed toward counties with high spending from their own sources and high incomes.

Efforts to further reduce variations in education spending between high income and low income areas within a State may require changes in State funding formulas. State education aid formulas which allocate aid to local governments solely by a measure of property wealth per pupil often give more aid per pupil to higher income areas. Johnson and Perkins found this to

Table 5--Pearson correlation coefficients: Current expenditures per pupil from own sources, State aid per pupil, and per capita personal income, by county, by State, 1982

	F ratio1/	Correlation coefficients		
		variable 1 & variable 2	variable 1 & variable 3	variable2 & variable 3
All States	1.186*	-.33**	.46**	-.01
Alabama	1.779*	-.44**	.58**	-.49**
Alaska	4.426*	-.66*	-.41	.55
Arizona	0.526	-.45**	.62**	-.57**
Arkansas	1.150	-.78**	-.02	-.27
California	3.345*	-.08	.09	-.36**
Colorado	1.285	.03	.14	-.29*
Connecticut	0.601	-.67	.84*	-.68
Delaware	6.130	-.13	.91	-.52
District of Columbia	N.A.	N.A.	N.A.	N.A.
Florida	0.475*	-.82**	.71**	-.62**
Georgia	1.145	-.42**	.52**	-.24*
Hawaii	2/	N.A.	-.27	N.A.
Idaho	2.419*	-.02	.52**	.18
Illinois	1.174	-.52**	.58**	-.43**
Indiana	1.865*	.20	.48**	.11
Iowa	2.902*	.41**	.36**	-.07
Kansas	0.615	-.64**	.64**	-.58**
Kentucky	1.718*	-.39**	.73**	-.32**
Louisiana	1.289	-.29	.51**	-.73**
Maine	0.935	-.47	.64**	-.60**
Maryland	0.388*	-.78**	.78**	-.72**
Massachusetts	0.670	-.64**	.53	-.53
Michigan	1.213	-.20	.32*	.17
Minnesota	3.746*	-.07	.42**	-.35**
Mississippi	4.110*	.84**	.24	.07
Missouri	1.348	-.21	.66**	-.45**
Montana	0.600	-.64**	.32*	-.29
Nebraska	1.294	-.47**	.05	-.07
Nevada	2.228	-.04	-.03	-.62**
New Hampshire	1.075	.14	.07	-.26
New Jersey	0.285*	-.87**	.82**	-.73**
New Mexico	6.467*	-.60**	.26	-.28
New York	0.519*	-.71**	.68**	-.51**
North Carolina	1.814*	-.54**	.48**	-.23**
North Dakota	1.922*	.01	.35*	.17
Ohio	1.185	-.29**	.61**	-.38**
Oklahoma	2.529*	.00	.72**	.12
Oregon	0.659	-.60**	.32	-.14
Pennsylvania	0.753	-.59**	.79**	-.52**
Rhode Island	0.959	-.32	-.03	-.33
South Carolina	1.604	-.28	.67**	-.53**
South Dakota	1.827*	.32**	.78**	.11
Tennessee	1.033	-.30**	.63**	-.47**
Texas	0.887	-.36**	.34**	-.38**
Utah	1.156	-.42	.22	-.45**
Vermont	1.100	-.18	.60	.03
Virginia	1.687*	.32**	.55**	-.28**
Washington	7.607*	.44**	.53**	.39**
West Virginia	0.795	-.57**	.45**	-.65**
Wisconsin	1.748*	.01	.38**	-.10
Wyoming	0.201*	-.89**	.02	-.10

1/ Ratio of variance of current expenditures per pupil from all sources to current expenditures per pupil from own sources.

Note: variable 1 = Current expenditures per pupil from own sources.
variable 2 = State aid per pupil.
variable 3 = Per capita personal income.

* Significant at 5% level of confidence.
** Significant at 10% level of confidence.

be true in Wisconsin in 1980, where State aid formulas were based only on property wealth per pupil. Counties with high property wealth but low income per pupil (generally counties heavily dependent on farming, or with a high proportion of retired people) received less aid per pupil, on the average, than counties with low property wealth but high income per pupil (generally urban areas). Their simulation of the distribution of per pupil State aid showed increased levels of aid in rural counties and lower levels in metropolitan counties, if per pupil State aid were based on per pupil income rather than property wealth.[47]

The next section looks at changes in local government current education expenditures and revenues by type of State and Census Division. Only inferences may be drawn regarding the metro/nonmetro changes in spending and revenues during the 1979-80 to 1986-87 period because data on all local governments are not available.

Findings: State Level

Changes Spending 1970-1987

Despite a severe recession in 1981 and 1982, economic problems experienced by the farming and some manufacturing sectors, and the recent collapse of energy prices (which led to hardship in

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[47] Johnson, Marvin B. and Teri L. Perkins. "School Finance Reform and Rural Property Taxes," North Central Journal of Agricultural Economics, Vol. 5, No. 1, January 1983, pp. 38-40.

the mining sector), current expenditures per pupil, measured in constant dollars, continued to grow in all types of States and in all geographic areas (Table 6 and Fig. 10). However, the use of beginning-of-decade years as reference points to measure change hides a period of declining constant dollar, per pupil expenditures--1977-82 (Table 3).[48]

Rural States (see Table 2 for classification of States) increased their spending on education by 2.7 percent per year during the 1980's, about the same rate as in the 1970's. During the 1970's, per pupil spending increased noticeably faster in rural States the than in urban States. However, the absolute gap, in constant dollars per pupil, actually widened during the 1970's. It widened further during the 1980's, when urban State spending growth rates caught up to rural State growth rates. In 1970, urban States spent $792 (1987 dollars) per pupil more than rural States; in 1987 the difference was $1,009. In relative terms, however, rural States have caught up some with urban States; education spending in rural States was 72 percent of the urban level in 1970 and 77 percent in 1987.

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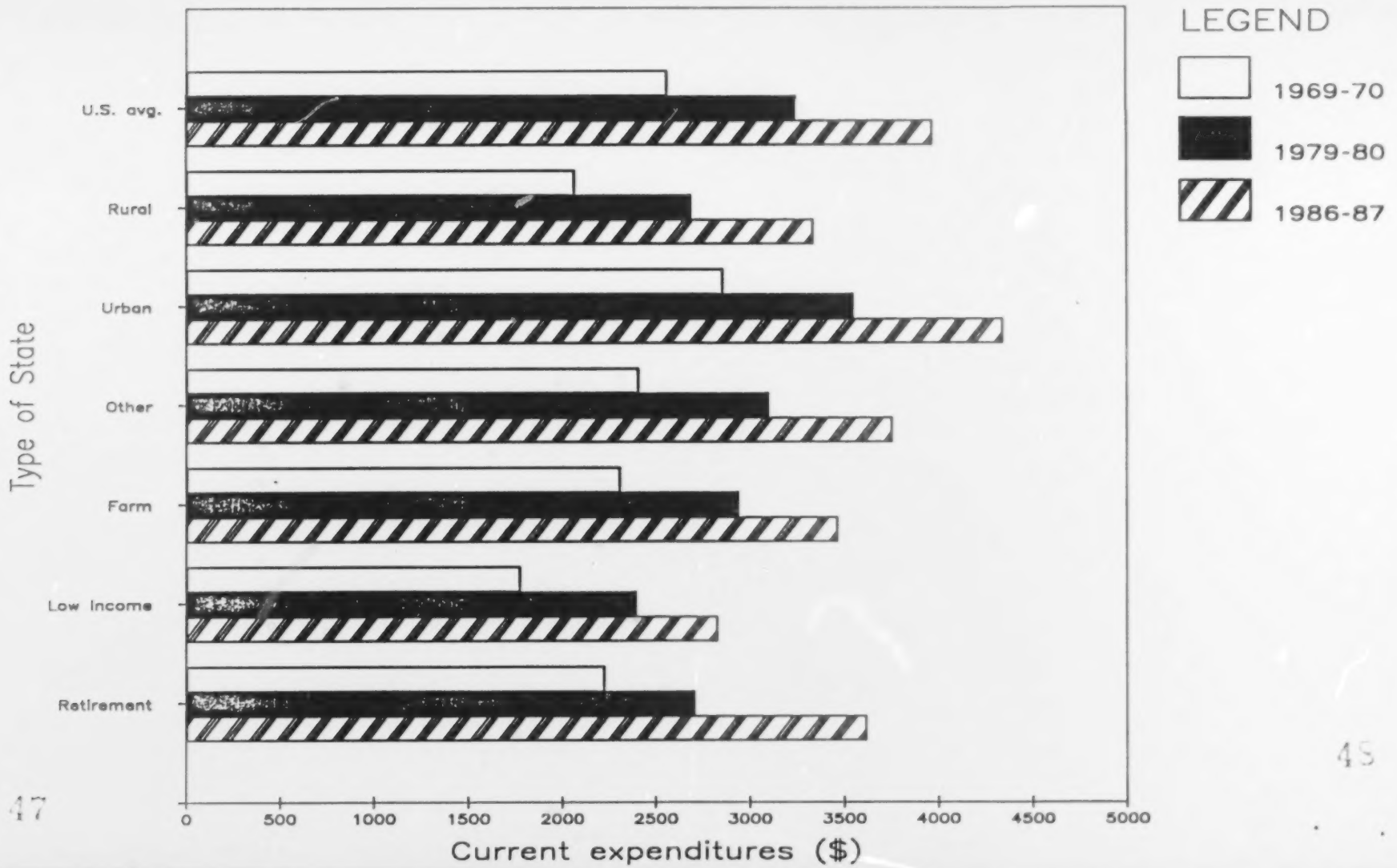
[48] The U.S. Department of Education, using a different data series and a different price deflator, also shows a slight decline in current education expenditures per pupil, in constant dollars during this period. See: U.S. Department of Education. Office of Educational Research and Improvement. The Condition of Education, Elementary and Secondary Education, 1988 Volume 1. p. 92.

Figure 10

Current expenditures per pupil in average daily attendance

By type of State, 1969-70, 1979-80, and 1986-87

Constant 1987 dollars



Current expenditures per pupil rose by 2.1 percent annually in the 1980's in farming dependent states, in spite of severe economic problems in the farm sector. In the prior decade, education spending grow by 2.4 percent per year in these States. The growth in education spending, per pupil, slowed dramatically in the persistent low income States, from 3.0 percent annually in the 1970's to 2.1 percent in the 1980's. This may be due to persistent farm problems, weaknesses in certain manufacturing sectors and more recently, depressed energy prices. The opposite trend occurred in retirement destinationStates, where the growth rate of education spending accelerated from 2.0 percent per year in the 1970's to 3.7 percent in the 1980's. However, the annual average growth rates of education spending in Arkansas and New Mexico, the rural retirement destination States, were 3.2 percent and 2.9 percent respectively, during the 1980's (Appendix Table 10).[49]

Interregional variations in growth rates were greater in the 1980's than in the 1970's. During the 1970's, growth rates ranged from about 2 percent per year in the Pacific States to about 3.3 percent per year in the East South Central States. During the 1980's, growth rates ranged from less than 2 percent per year in the Rockies to nearly 4 percent per year in the South

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[49] Arkansas is also classified as Farm dependent State and New Mexico is heavily dependent on mining, a sector which has experienced difficulties in the latter half of the 1980's.

Table 6--Current expenditures per pupil in average daily attendance in public elementary and secondary schools, and annual average rates of change, in constant 1986-87 dollars 1/ selected academic years 1969-70 to 1986-87

Type of State	Constant 1986-87 dollars				
	1969-70	1979-80	1986-87	1969-70 to 1979-80	1979-80 to 1986-87
	dollars			percent per year	
U.S. Total	2,560	3,241	3,970	2.4	2.9
Rural/small town	2,068	2,690	3,337	2.7	3.1
Urban/metro	2,860	3,549	4,346	2.2	2.9
Other	2,410	3,100	3,757	2.6	2.8
Farm dependent	2,314	2,943	3,468	2.4	2.4
Persistent low income	1,777	2,397	2,831	3.0	2.4
Retirement destination	2,230	2,712	3,620	2.0	4.2
Census Division					
New England	2,694	3,561	4,736	2.8	4.2
Mid Atlantic	3,425	4,342	5,631	2.4	3.8
East North Central	2,613	3,364	3,912	2.6	2.2
West North Central	2,437	3,108	3,699	2.5	2.5
South Atlantic	2,064	2,591	3,554	2.3	4.6
East South Central	1,703	2,354	2,781	3.3	2.4
West South Central	1,960	2,670	3,366	3.1	3.4
Rocky Mountain	2,224	2,974	3,338	2.9	1.7
Pacific	2,754	3,382	3,893	2.1	2.0

1/ Data for 1969-70 and 1979-80 adjusted by the Implicit Price Deflator for State and Local Government Purchases of Goods and Services. For data by State in current dollars, see Appendix Table 10.

Source: U.S. Department of Agriculture, Economic Research Service Atlantic States. In general, the growth in education spending was based on data from the Center for Education Statistics and U.S. Department of Commerce, Bureau of Economic Analysis.

concentrated in the East Coast (Northeast, Mid Atlantic and South Atlantic Census Divisions) where growth exceeded 4 percent per year; in all other states, the growth in education spending was less the 2.5 percent per year except in the West South Central

States. These States were able to sustain increases in education spending despite the collapse of energy prices in 1985 and 1986.

Intergovernmental Aid

Although local governments generally have the major responsibility for providing primary and secondary education, State and direct Federal aid to local governments for education have played a major role in financing education for the past 50 years.[50] Further, the importance of these intergovernmental revenues has grown substantially during this period. In 1930, local governments as a whole, supplied nearly 83 percent of all education revenues. Two decades later, local governments provided approximately 57 percent of all education revenues. This proportion had fallen to 44 percent in 1987. The last year in which local governments provided more than half of all education revenues was 1974.[51]

A major structural shift in financing education occurred in 1980. Direct Federal aid for education grew in importance as a source of local government education revenues from 1970 to 1980; since 1980, direct Federal aid has declined is relative importance (Table 7 and Fig. 11). At its peak in 1980, Federal aid provided

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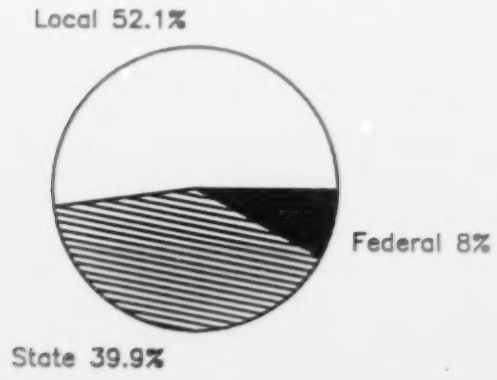
[50] The relative importance of intergovernmental aid may be overstated since the definition of education revenues excludes a number of items. See footnote 14 for details.

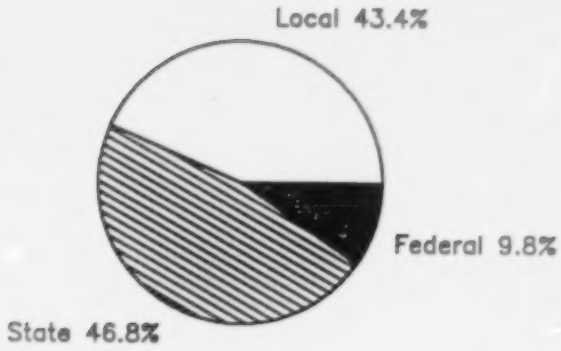
[51] U.S. Department of Education, Office of Educational Research and Improvement. The Condition of Education, Elementary and Secondary Education, 1988, Volume 1, p. 94.

Figure 11

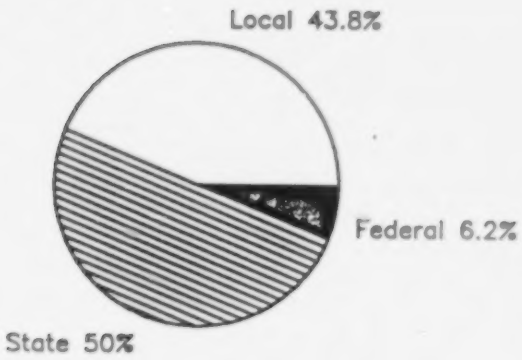
Sources of local government revenues for education
1969-70, 1979-80, and 1986-87



1969-70



1979-80



1986-87

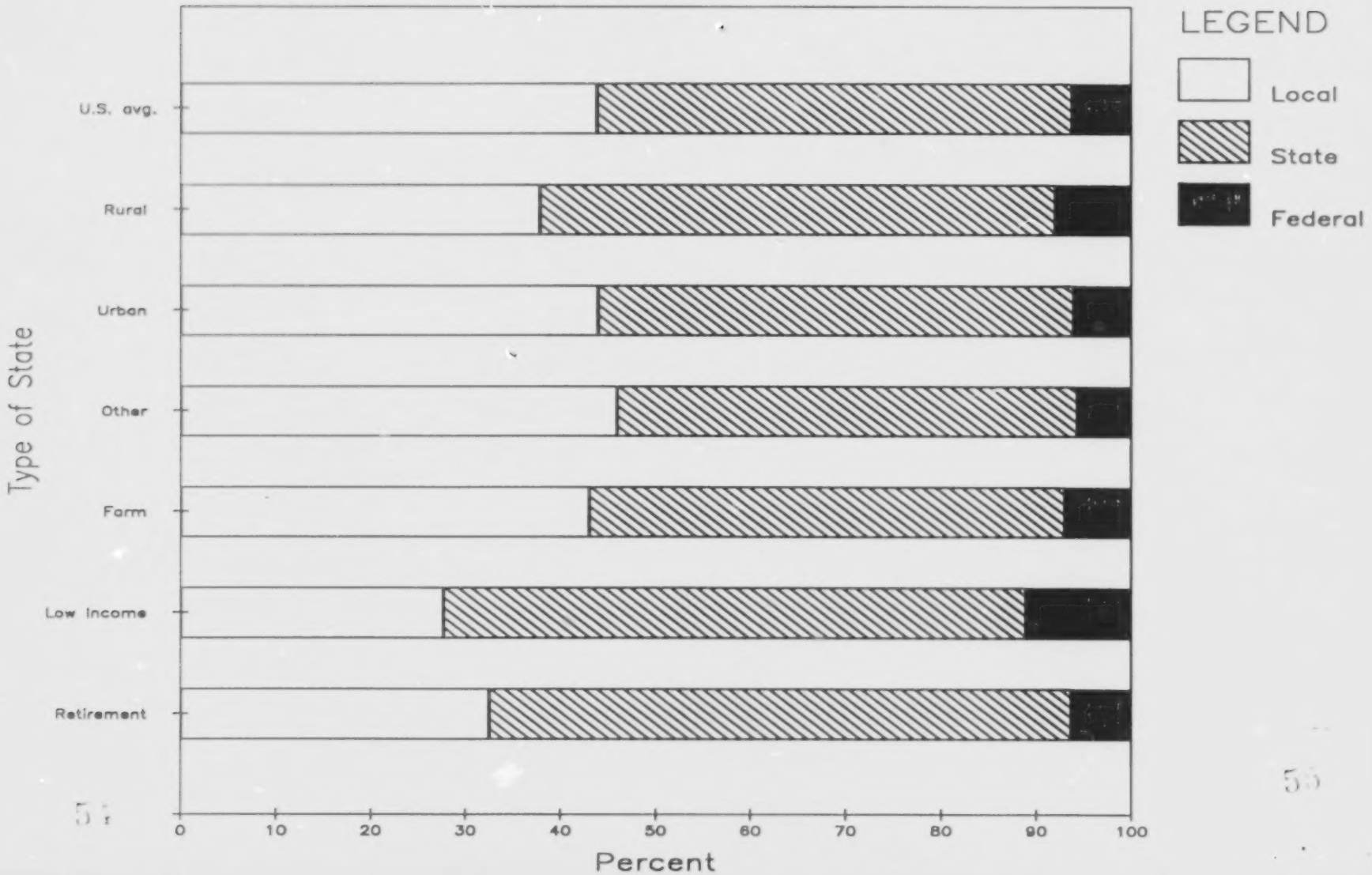
slightly less than 10 percent of all local government revenues for all States. In 1987, slightly more than 6 percent of all local government education revenues consisted of direct Federal aid. However, for the poorest States, Federal aid provided more than 11 percent of local government revenues, and 8 percent in Rural States in general (Fig. 12).

State education aid accounted for half of all local government revenues for education in 1986-87, compared to 40 percent in 1969-70 (Fig. 11). The growth in the relative importance of State aid during the 1970's was most pronounced in urban States and farm dependent States. In those State groups, the proportion of education revenues financed by State governments increased by 7 and 8 percentage points respectively (5 percentage points for the nation as a whole). Only in persistent low income and retirement destination States did the relative importance of State education aid shrink during the 1970's (Table 7).

From 1979-80 to 1986-87, State education aid, as a proportion of all local government education revenues, increased by 5 percentage points. Local governments in persistent low income States increased their reliance on State aid to finance education by more than 9 percentage points, the most significant change among all types of States. In Arkansas and South Carolina, State education aid, as a proportion of local government education

Figure 12

Sources of local government revenues for education, by source and type of State, 1986-87



revenues, increased by 15 percentage points and 14 percentage points respectively (Appendix Table 11).

The most dramatic change in the sources of education funding occurred in the Pacific Coast States between 1969-70 and 1979-80. In 1969-70, intergovernmental aid accounted for approximately 42 percent of local government education revenues; in 1979-80 this proportion had risen to nearly 74 percent (Table 7). In California, which statistically dominates this region, intergovernmental education aid provided 38 percent of local government education revenues in 1969-70 and 77 percent in 1979-

Table 7--Percent distribution of local government receipts for public elementary and secondary schools, by source and type of State, academic years 1969-70, 1979-80, and 1986-87

Type of State	Local government 1/			State			Federal		
	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87
	Percent								
Total U.S.	52.1	43.4	43.8	39.9	46.8	50.0	8.0	9.8	6.2
Rural/smalltown	44.9	39.4	37.8	42.4	48.0	54.2	12.7	12.6	8.0
Urban/metro	55.3	44.4	43.9	37.8	46.3	50.0	6.8	9.3	6.1
Other	50.1	43.3	45.9	41.9	47.1	48.4	8.0	9.8	5.7
Farm dependent	54.8	44.2	43.0	35.8	46.0	50.0	9.4	9.8	7.1
Persistent low income	30.2	30.0	27.7	52.9	54.1	61.2	16.8	16.0	11.1
Retirement destination	32.5	33.3	32.5	54.9	54.2	61.2	12.6	12.5	7.9
Census Division									
New England	62.7	61.5	54.2	31.9	31.4	40.7	5.4	7.2	5.2
Mid Atlantic	52.3	53.1	52.1	41.6	38.3	43.4	6.1	8.6	4.5
East North Central	60.6	50.6	52.9	34.2	41.9	41.9	5.2	7.5	5.1
West North Central	67.3	57.0	54.1	24.9	35.1	39.9	7.7	7.8	5.9
South Atlantic	34.4	34.6	39.7	51.9	52.6	53.1	13.7	12.8	7.3
East South Central	30.0	27.5	26.8	52.5	56.2	60.9	17.5	16.3	12.2
West South Central	39.3	35.3	41.1	47.9	51.7	51.4	12.8	13.0	7.5
Rocky Mountain	52.5	47.7	44.1	37.4	43.5	50.1	10.1	8.8	5.8
Pacific	57.5	25.3	26.5	36.1	64.4	66.6	6.5	10.3	6.9

1/ From own sources.

Source: Appendix Tables 8 and 9.

80 (Appendix Table 11).[52] With the exceptions of the South Atlantic and West South Central States, intergovernmental aid funded a larger portion of local government revenues for education in 1986-87 than in 1969-70 (Table 7).

Locally Raised Revenues

The converse of the increasing importance of intergovernmental aid for education is the declining importance of locally raised revenues. State imposed limitations on property taxes in California and Massachusetts in the late 1970's prompted other States to impose controls of some kind on expenditures and/or revenues. During the 1970's, per pupil locally generated education revenues in the Pacific Division fell by about 5 percent annually (Table 8). To a large extent, this can be explained by the imposition of Proposition 13 in California which significantly reduced property tax revenues in that State. Locally raised education revenues, per pupil, in California declined by more than two percent per year from 1969-70 to 1979-80, representing a 13 percent per year decline in constant 1987 dollars (Appendix Table 11). In Massachusetts, another State affected by Proposition 13 type tax limitations, locally generated education revenues declined by 5 percent per year in constant 1987 dollars, from 1979-80 to 1986-87 (Appendix Table 11).

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[52] In 1969-70, California accounted for 76 percent of all local government education revenues in the Pacific Census Division and 71 percent in 1979-80 (Appendix Table 11).

For the nation as a whole, locally generated education revenues per pupil, in constant dollars, grew at approximately twice that of the 1970's (Table 8 and Fig. 13). For rural States, the rates of growth of per pupil education revenues from local sources was about the same in both periods. Constant dollar growth of local education revenues per pupil was negligible in farm dependent States during the 1980's, due in part to poor economic conditions in the agriculture sector. For farm dependent States, education revenues per pupil were 91 percent of the national average in 1969-70 and 86 percent of the national average in 1986-87 (Appendix Table 8). After strong growth in the 1970's, local education revenues from own sources, per pupil, grew slowly in persistent low income States and retirement destination States during the 1980's. In the West South Central States, locally generated revenues grew by about 4 percent per year, in constant dollars, fueled in large part by rising oil and natural gas prices. Economic difficulties in the energy and mining sectors in the latter half of the 1980's were probably the cause of the decline in the growth of locally generated education revenues, per pupil, in the West South Central and Rocky Mountain Census Divisions.

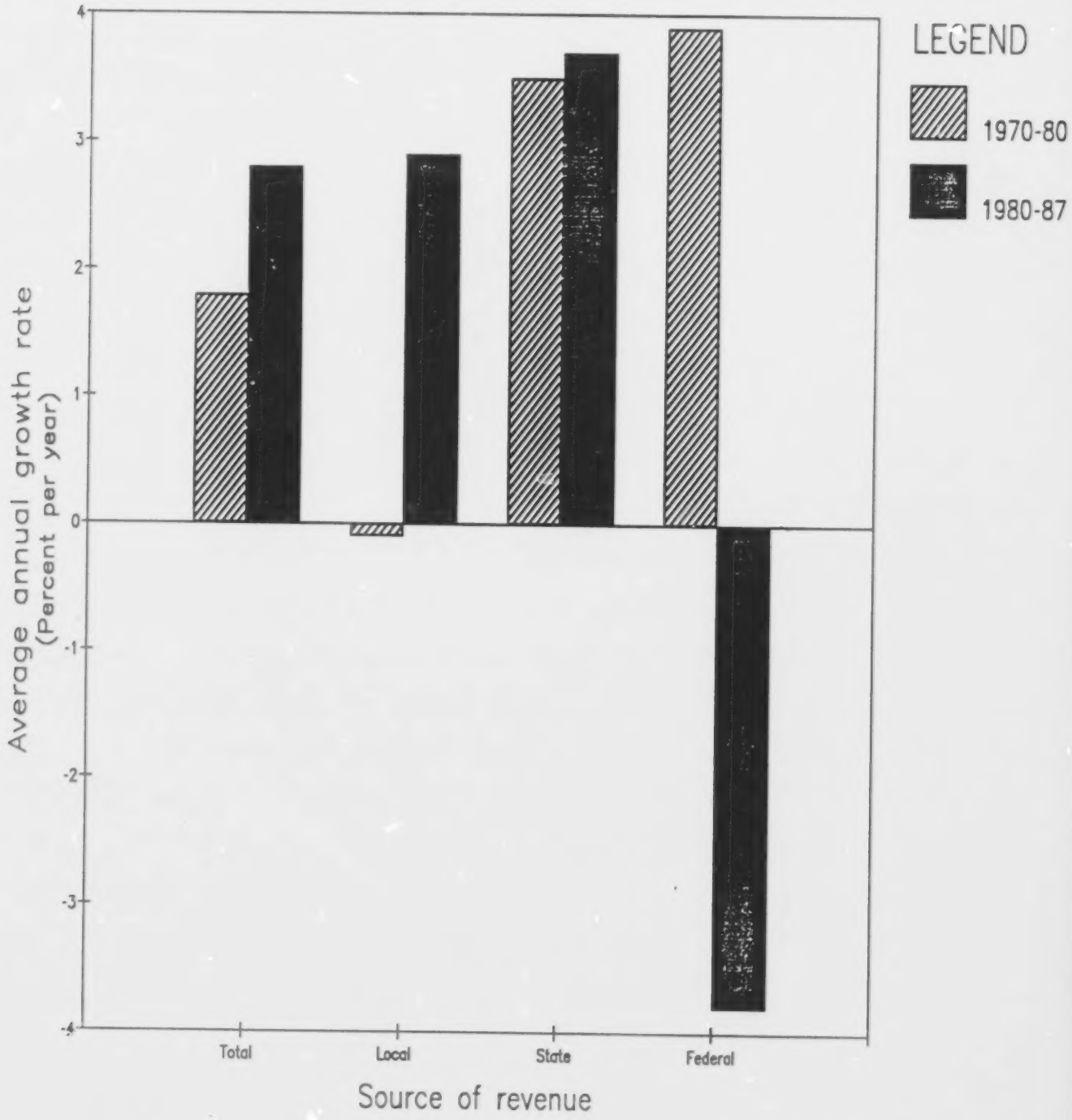
The relative gap in total education revenues per pupil between rural and urban States narrowed over the time period studied, due to the more rapid growth in education revenues per pupil in rural States (Table 8). In 1969-70 and 1979-80, total education

Figure 13

Rate of growth of local government revenues for education 1/

by source of revenue, 1970-80 and 1980-87

Constant 1987 dollars



1/ Per pupil in average daily attendance.

Table 8--Rate of growth of education revenues per pupil, by source and type of State, constant 1986-87 dollars 1/

Type of State	Local governments from own sources		State		Federal		Total revenues	
	1969-70 to 1979-80	1979-80 to 1986-87	1969-70 to 1979-80	1979-80 to 1986-87	1969-70 to 1979-80	1979-80 to 1986-87	1969-70 to 1979-80	1979-80 to 1986-87
	Percent per year							
U.S. Total	-0.1	2.9	3.5	3.7	3.9	-3.8	1.8	2.8
Rural/small town	0.5	2.5	3.1	4.9	1.7	-3.3	1.8	3.1
Urban/metro	-0.7	2.5	3.6	3.8	4.7	-3.3	1.5	2.7
Other	0.7	3.5	3.4	3.0	4.1	-4.8	2.2	2.6
Farm dependent	-0.2	1.4	4.6	3.1	2.4	-2.8	2.0	1.8
Persistent low income	1.5	2.3	1.8	5.3	1.1	-1.8	1.6	3.4
Retirement destination	2.0	2.9	1.6	4.7	1.8	-3.4	1.8	3.3
Census Division								
New England	2.4	1.2	2.4	7.0	5.6	-1.7	2.6	3.0
Mid Atlantic	2.2	3.1	1.2	5.3	5.6	-5.8	2.0	3.4
East North Central	-0.2	3.6	3.7	2.9	5.5	-2.6	1.6	2.9
West North Central	-0.6	0.7	5.9	3.4	2.4	-2.5	2.3	1.5
South Atlantic	0.9	6.2	1.9	4.3	1.1	-3.9	1.8	4.2
East South Central	0.8	2.7	2.3	4.3	0.9	-1.0	1.6	3.1
West South Central	1.9	5.4	3.9	3.1	3.3	-4.6	3.0	3.2
Rocky Mountain	1.9	-0.1	4.5	3.1	1.5	-4.9	2.9	1.0
Pacific	-6.8	2.4	7.3	2.2	6.1	-4.0	1.2	1.7

1/ See Appendix Table 8 for data on local government revenues per pupil in current dollars.

Source: Appendix Tables 8 and 9.

revenues per pupil in rural States were approximately 19 percent below the national average; in 1986-87, per pupil revenues were 17 percent below the national average (Appendix Table 9). Per pupil education revenues in rural States averaged 24 percent less than the level in urban States in 1986-87, and 29 percent less in 1969-70 (Appendix Table 9). However, the absolute constant dollar gap in education revenues increased from $974 per pupil in 1969-70 to $1,157 per pupil in 1986-87 (Appendix Table 9). The above average growth in education revenues per pupil in rural States during the 1980's is due to the relatively rapid growth in State education aid (Table 8). Similarly, the rapid growth of State aid per pupil in persistent low income States and

retirement destination States, 5 percent per year in constant dollars, was responsible for the above average growth in total education revenues per pupil in those States. Without this State aid growth, education revenues would have been stagnant. State aid per pupil grew at a considerably lower rate during the 1980's in farm dependent States, due to a large extent to the poor economic conditions in the agriculture sector. This slow growth in State aid appears responsible for the slow revenue growth in these States.

Federal education aid per pupil, which was the fastest growing source of education revenues during the 1970's, declined by nearly 4 percent per year, in constant dollars, during the 1980's (Fig. 13). This may be somewhat misleading because, to some extent, the sharp decline in direct Federal aid for education can be explained by a change in the form of grants. During the 1980's, many categorical grants to local governments were changed to block grants; i.e., grants to State governments that were subsequently spent in local areas. Constant dollar total Federal aid, per pupil, for elementary and secondary education fell by 2 percent per year from 1981 to 1987, about half the rate of decline of direct Federal aid to local governments.[53]

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[53] U.S. Department of Commerce, Bureau of the Census. Federal Expenditures by State for Fiscal Year 1981. pp.5, 6, and Federal Expenditures by State for Fiscal Year 1987, pp. 5, 6. These totals were divided by the number of pupils in average daily attendance in 1981 and 1987. The 1981 per pupil figure was deflated by the Implicit Price Deflator for State and Local Government Purchases of Goods and Services.

Summary and Conclusions

Summary

On the average, local governments within nonmetro counties spent about 10 percent less per pupil in average daily attendance on primary and secondary education than local governments within metro counties in 1982. The national averages, however, obscure the huge variation in education spending among nonmetro counties. Per pupil spending in totally rural Western counties (Rocky Mountain and Pacific Census Divisions) was about 47 percent higher than the average for all counties, while the urbanized nonmetro counties in Southern States (South Atlantic, East South Central, and West South Central Census Divisions) spent about 37 percent less than the national average. In general, the more sparsely settled nonmetro counties based on agriculture, or mining tended to have higher levels of education spending than other nonmetro counties. Similarly, nonmetro counties which are not adjacent to metro counties spent approximately 5 percent ($95) more per pupil than counties which are adjacent.

The higher expenditure levels found in the more sparsely settled nonmetro counties (farm dependent, mining dependent, and Federal lands) do not necessarily reflect a higher quality of education being offered. Providing public services, including education, to a relatively small population spread over a wide geographic area entails higher costs than providing the same service to the same population in a smaller area. Further, nonmetro counties

which have been experiencing a population loss of school-age children will incur higher costs if they are using capital facilities designed and built for a larger population.

Per pupil education expenditures are generally lower in nonmetro counties than in metro counties because nonmetro counties generally have lower levels of income and taxable wealth.[54] With lower levels of fiscal resources available, nonmetro school districts are constrained to spend less than metro area schools. In addition, it has been hypothesized that many nonmetro areas would spend less for education than metro areas, all other things being equal, because these governments are less able to capture the benefits of their expenditures due to high rates of outmigration. Benefits of expenditures on education accrue to an area over long periods of time. Substantial net outmigration of younger people reduces the benefits that can be recaptured by the local government providing education.[55] In contrast, some communities may believe that higher levels of expenditures on elementary and secondary education will attract new businesses

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[54] The simple correlation coefficient between current expenditures per pupil and per capita personal income, by county, in 1982 was .44. This does not necessarily imply that higher incomes cause higher expenditures per pupil, despite the statistical significance of this relationship.

[55] The net outmigration rate of persons 20-24 years of age from nonmetro to metro areas was 5.5 percent in 1985-86. See: Swanson, Linda and Margaret A. Butler. "Human Resource Base of Rural Economies," Rural Economic Development in the 1980's: Prospects for the Future, U.S. Department of Agriculture, Economic Research Service, Rural Development Research Report No. 69, Washington, DC, 1988, p. 184.

and retain old ones and attract new residents. These communities may spend more for education than would be expected given their incomes and wealth.

Intergovernmental aid partially compensates local areas for their investments in education, and partially equalizes fiscal resources among jurisdictions. With the exceptions of Indiana, Mississippi, North Dakota, South Dakota, and Washington, States tend to reduce the disparities in spending among counties within their borders through the allocation of aid. For the nation as a whole, the system of State aid reduces the relative differences in spending among all counties. States may not wish to eliminate all differences in education spending among local areas. States may recognize that providing education often costs more in more sparsely settled areas and core metro areas than in other areas. They may wish to allocate relatively more aid to the higher cost areas, although they may also be higher income areas.

Since 1970, current expenditures per pupil have risen faster in rural States than in urban States, reducing the relative gap in spending from 72 percent of the urban State level in 1970 to 77 percent in 1987. In constant 1987 dollars, however,the gap has actually increased from $728 to $1,009 during this period. During the 1980's, the growth in education spending has been concentrated on the East Coast (New England, Middle Atlantic and South Atlantic Census Divisions), where expenditures per pupil

have risen by more than 4 percent annually, in constant dollars. In comparison, the growth in education expenditures in the 1970's was more uniformly distributed among the Census Divisions.

Local governments' reliance on State aid to fund education grew during the 1980's, continuing a six decades long trend. Slightly more than half of all local government revenues for education came from State sources in 1987; 40 percent came from State sources in 1970. Direct Federal aid for primary and secondary education fell by slightly less than 4 percent per year, in constant dollars, during the 1980's. In the prior decade, direct Federal aid grew by slightly less than 4 percent per year, in constant dollars.

Conclusions

Future efforts to diminish the differences in per pupil education spending between metro and nonmetro areas require will higher levels of real resources. Unless there is a significant change in Federal budget priorities, it is difficult to foresee massive increases in Federal aid to rural education, given the present state of the Federal deficit. Substantial increases in State aid may be difficult to achieve as many State budgets have slipped into deficit in recent years. For this reason, one may expect increased efforts to reallocate State aid to needy rural districts and away from wealthier urban districts. Where such

approaches fail, rural local governments may have to rely more heavily on their own non fiscal resources in order to improve the quality of education. Such non fiscal items can include the sharing of specialists and other resources, and wider and more intensive use of new technologies such as satellite transmission of courses. However, it remains to be seen how much these approaches can make up for the significant fiscal disadvantages rural governments face.

Appendix Table 1--Estimated Enrollment and Education Expenditures by Type of County and Census Division, Academic Years 1977 and 1982

Educational expenditures per pupil	All counties	Metro counties						Nonmetro counties						
		All	Large metro areas			Medium	Small	All nonmetro counties	Urbanized		Less urbanized		Totally rural	
			Total	Core	Fringe				Adjacent	Nonadjacent	Adjacent	Nonadjacent	Adjacent	Nonadjacent
	dollars per pupil													
All divisions														
1977	1,604	1,673	1,813	1,814	1,812	1,490	1,436	1,402	1,463	1,430	1,351	1,390	1,385	1,424
1982	2,258	2,315	2,466	2,471	2,460	2,104	2,105	2,084	2,086	2,155	1,991	2,114	2,094	2,153
Percent change	40.7	38.3	36.1	36.2	35.8	41.2	46.6	48.7	42.6	50.7	47.4	52.1	51.2	51.2
Northeast														
1977	1,688	1,732	1,934	1,984	1,864	1,580	1,469	1,454	1,495	1,391	1,389	1,426	1,441	1,598
1982	2,176	2,201	2,353	2,436	2,240	2,106	1,938	2,052	2,047	2,096	1,953	2,077	2,170	2,350
Percent change	28.9	27.1	21.6	22.8	20.2	33.3	31.9	41.1	36.9	50.7	40.6	45.7	50.6	47.1
Mid Atlantic														
1977	1,922	1,936	1,985	1,815	2,184	1,817	1,609	1,789	1,836	2,077	1,747	1,559	1,596	1,488
1982	2,677	2,707	2,778	2,565	3,016	2,537	2,276	2,409	2,408	2,839	2,401	2,243	2,073	2,077
Percent change	39.3	39.8	40.0	41.3	38.1	39.6	41.5	34.7	31.1	36.7	37.4	43.9	29.9	39.6
East North Central														
1977	1,622	1,671	1,735	1,831	1,592	1,573	1,523	1,452	1,443	1,459	1,406	1,502	1,577	1,517
1982	2,275	2,336	2,390	2,475	2,271	2,294	2,205	2,150	2,039	2,056	2,016	2,176	2,151	1,894
Percent change	40.3	39.9	37.7	35.2	42.6	45.9	44.8	48.1	41.3	40.9	43.4	44.9	36.3	24.8
West North Central														
1977	1,592	1,578	1,584	1,723	1,446	1,676	1,482	1,607	1,481	1,637	1,547	1,633	1,597	1,641
1982	2,297	2,275	2,266	2,459	2,088	2,364	2,227	2,323	2,143	2,400	2,162	2,360	2,316	2,437
Percent change	44.3	44.2	43.0	42.7	44.4	41.0	50.2	44.5	44.7	46.6	39.8	44.6	45.0	48.5
South Atlantic														
1977	1,434	1,514	1,681	1,690	1,673	1,344	1,385	1,244	1,278	1,224	1,231	1,254	1,246	1,246
1982	2,039	2,090	2,231	2,233	2,230	1,956	1,973	1,912	1,926	1,894	1,896	1,928	1,870	1,979
Percent change	42.1	38.0	32.7	32.1	33.3	45.5	42.4	53.7	50.7	54.7	54.0	53.7	50.1	58.8
East South Central														
1977	1,005	1,034	850	1/	850	1,063	944	975	899	983	1,020	976	965	954
1982	1,464	1,461	1,270	1/	1,270	1,490	1,378	1,466	1,305	1,462	1,549	1,464	1,518	1,452
Percent change	45.6	41.4	49.4	n.a.	49.4	40.1	46.1	50.4	45.1	48.7	52.0	50.1	57.3	52.2
West South Central														
1977	1,212	1,200	1,189	1,200	1,148	1,197	1,227	1,241	1,152	1,187	1,265	1,251	1,340	1,357
1982	1,955	1,934	1,912	1,962	1,754	1,925	1,996	2,006	1,980	1,945	1,983	2,011	2,294	2,159
Percent change	61.3	61.2	60.8	63.5	52.8	60.9	62.7	61.7	71.9	63.9	56.8	60.8	71.2	59.1
Rocky Mountain														
1977	1,626	1,636	1,794	1,802	1,782	1,512	1,524	1,611	1,566	1,495	1,525	1,662	1,842	1,923
1982	2,270	2,150	2,206	2,149	2,292	2,070	2,185	2,457	2,096	2,725	2,142	2,617	2,926	2,969
Percent change	39.6	31.4	23.0	19.3	28.6	36.9	43.3	52.5	33.8	82.3	40.5	57.5	58.8	54.4
Pacific														
1977	1,985	2,003	2,065	2,092	1,985	1,731	1,971	1,832	1,903	1,900	1,676	1,703	2,231	1,951
1982	2,671	2,652	2,715	2,759	2,586	2,320	2,757	2,833	2,772	2,825	2,450	3,150	3,546	3,160
Percent change	34.5	32.4	31.5	31.9	30.2	34.0	39.9	54.6	45.6	48.7	46.2	84.9	58.9	61.9

1/ No counties in this category.
n.a. not applicable.

Appendix Table 2--Local government expenditures for elementary and secondary education per pupil enrolled, by Census Division and county dependency, academic years 1977 and 1982

Census division	All counties	Metro counties	Nonmetro counties								
			All	Farm dependent	Mfg. dependent	Mining dependent	Government dependent	Federal lands	Persistent low income	Retirement destination	Ungrouped
	dollars per pupil										
All divisions											
1977	1,606	1,673	1,402	1,505	1,339	1,373	1,401	1,638	1,077	1,399	1,439
1982	2,258	2,315	2,084	2,218	1,968	2,200	2,073	2,479	1,703	2,029	2,151
Percent change	40.5	38.3	48.7	47.4	47.0	60.2	47.9	51.3	58.1	45.1	49.4
Northeast											
1977	1,688	1,732	1,454	1/	1,432	1/	1,349	1/	1/	1,554	1,400
1982	2,176	2,201	2,052	1/	2,052	1/	1,890	1/	1/	2,097	2,021
Percent change	28.9	27.1	41.1	n.a.	43.3	n.a.	40.1	n.a.	n.a.	35.0	44.3
Mid Atlantic											
1977	1,922	1,936	1,789	1/	1,737	1,496	1,841	1,488	1/	2,067	1,882
1982	2,677	2,707	2,409	1/	2,343	2,129	2,535	2,077	1/	2,748	2,446
Percent change	39.3	39.8	34.7	n.a.	34.9	42.4	37.7	39.6	n.a.	32.9	30.0
East North Central											
1977	1,622	1,671	1,452	1,479	1,403	1,423	1,566	1,794	1,572	1,550	1,549
1982	2,275	2,336	2,068	2,068	2,005	2,146	2,167	2,662	2,246	2,227	2,189
Percent change	40.3	39.9	42.5	39.8	42.9	50.7	38.4	48.4	42.8	43.6	41.3
West North Central											
1977	1,592	1,578	1,607	1,716	1,639	1,756	1,317	1,450	1,221	1,426	1,579
1982	2,297	2,275	2,323	2,454	2,291	2,379	2,006	2,105	1,771	2,072	2,320
Percent change	44.3	44.2	44.5	43.0	39.8	35.5	52.3	45.1	45.0	45.3	46.9
South Atlantic											
1977	1,434	1,514	1,244	1,285	1,203	1,211	1,293	1,307	1,160	1,365	1,276
1982	2,039	2,090	1,912	1,897	1,894	2,019	1,864	1,925	1,845	1,933	1,957
Percent change	42.1	38.0	53.7	47.6	57.4	66.7	44.2	47.3	59.1	41.6	53.4
East South Central											
1977	1,005	1,034	975	992	980	948	952	924	961	977	1,016
1982	1,464	1,461	1,466	1,582	1,443	1,404	1,433	1,369	1,487	1,388	1,587
Percent change	45.6	41.4	50.4	59.5	47.3	48.1	50.5	48.2	54.8	42.0	56.3
West South Central											
1977	1,212	1,200	1,241	1,253	1,193	1,412	1,248	1,037	1,188	1,161	1,242
1982	1,955	1,934	2,006	1,967	1,925	2,370	2,044	1,768	1,981	1,830	2,042
Percent change	61.3	61.2	61.7	57.0	61.4	67.9	63.7	70.4	66.8	57.7	64.4
Rocky Mountain											
1977	1,626	1,636	1,611	1,726	1,390	1,723	1,637	1,635	1,796	1,565	1,450
1982	2,270	2,150	2,457	2,663	2,003	2,815	2,450	2,432	2,848	2,221	2,450
Percent change	39.6	31.4	52.5	54.3	44.1	63.3	49.7	48.7	58.6	41.9	69.0
Pacific											
1977	1,985	2,003	1,832	1,897	1,874	1/	1,785	1,914	1/	1,846	2,168
1982	2,671	2,652	2,833	2,901	2,943	1/	2,702	3,004	1/	2,679	3,160
Percent change	34.5	32.4	54.6	52.9	57.0	n.a.	51.4	57.0	n.a.	45.1	45.8

1. No counties in this category.

n.a. not applicable

Appendix Table 3--State aid for elementary and secondary education by type of county and Census Division, academic years 1977 and 1982

Educational expenditures per pupil	All counties	Metro counties						Nonmetro counties						
		All	Large metro areas			Medium	Small	All nonmetro counties	Urbanized		Less urbanized		Totally rural	
			Total	Core	Fringe				Adjacent	Nonadjacent	Adjacent	Nonadjacent	Adjacent	Nonadjacent
	dollars per pupil													
All divisions														
1977	839	832	842	904	746	806	847	861	848	879	875	860	884	839
1982	1,288	1,277	1,306	1,456	1,081	1,207	1,309	1,323	1,269	1,381	1,306	1,352	1,340	1,288
Percent change	53.5	53.5	55.1	61.1	44.9	49.8	54.5	53.7	49.6	57.1	49.3	57.2	51.6	53.5
Northeast														
1977	576	574	638	668	595	498	623	587	539	764	731	516	310	655
1982	819	836	904	989	789	773	815	736	721	917	870	626	347	705
Percent change	42.2	45.6	41.7	48.1	32.6	55.2	30.8	25.4	33.8	20.0	19.0	21.3	11.9	7.6
Mid Atlantic														
1977	913	885	861	937	773	950	958	1,169	1,128	1,464	1,160	1,143	1,136	987
1982	1,295	1,268	1,254	1,414	1,074	1,299	1,412	1,527	1,456	2,041	1,507	1,538	1,360	1,558
Percent change	41.8	43.3	45.6	50.9	38.9	36.7	47.4	30.6	29.1	39.4	29.9	34.6	19.7	57.9
East North Central														
1977	809	818	846	926	725	755	795	777	725	802	791	812	863	692
1982	1,037	1,039	1,041	1,165	869	1,020	1,064	1,030	1,029	1,071	1,048	1,043	977	805
Percent change	28.2	27.0	23.0	25.8	19.9	35.1	33.8	32.6	41.9	33.5	32.5	28.4	13.2	16.3
West North Central														
1977	821	822	810	893	727	876	809	818	854	794	885	842	859	684
1982	1,287	1,277	1,267	1,411	1,134	1,319	1,268	1,299	1,294	1,232	1,347	1,327	1,386	1,208
Percent change	56.8	55.4	56.4	58.0	56.0	50.6	56.7	58.8	51.5	55.2	52.2	57.6	61.4	76.6
South Atlantic														
1977	875	843	839	830	694	925	920	949	930	919	942	977	938	983
1982	1,260	1,199	1,087	1,195	965	1,309	1,327	1,409	1,348	1,315	1,416	1,460	1,379	1,521
Percent change	44.0	42.2	29.6	44.0	39.0	41.5	44.2	48.5	44.9	43.1	50.3	49.4	47.0	54.7
East South Central														
1977	665	600	535	1/	535	588	665	735	638	705	742	746	784	803
1982	1,020	907	987	1/	987	886	982	1,142	984	1,080	1,152	1,169	1,203	1,262
Percent change	53.4	51.2	84.5	n.a.	84.5	50.7	47.7	55.4	54.2	53.2	55.3	56.7	53.4	57.2
West South Central														
1977	767	734	680	673	707	764	810	845	825	805	870	836	868	863
1982	1,286	1,228	1,118	1,122	1,104	1,318	1,353	1,431	1,462	1,395	1,426	1,418	1,470	1,533
Percent change	67.7	67.3	64.4	66.7	56.2	72.5	67.0	69.3	77.2	73.3	63.9	69.6	69.4	77.6
Rocky Mountain														
1977	940	951	944	963	915	981	910	924	980	884	1,022	938	805	855
1982	1,423	1,375	1,247	1,275	1,204	1,496	1,428	1,498	1,505	1,463	1,506	1,541	1,516	1,399
Percent change	51.4	44.6	32.1	32.4	31.6	52.5	56.9	62.1	53.6	65.5	47.4	64.3	88.3	63.6
Pacific														
1977	984	982	979	1,024	845	936	1,130	1,000	1,011	1,061	873	952	1,258	1,103
1982	1,928	1,918	1,960	2,074	1,630	1,658	2,076	2,014	1,905	1,973	1,782	2,359	2,807	1,870
Percent change	95.9	95.3	100.2	102.8	92.9	77.1	83.7	101.4	88.4	86.0	104.1	147.8	123.1	69.5

1/ No counties in this category.
n.a. not applicable.

Appendix Table 4--State aid for elementary and secondary education, by Census Division and county dependency, academic years 1977 and 1982

Census division	All counties	Metro counties	Nonmetro counties								
			All	Farm dependent	Mfg. dependent	Mining dependent	Government dependent	Federal lands	Persistent low income	Retirement destination	Ungrouped
	dollars per pupil										
All divisions											
1977	839	832	861	860	850	846	942	956	891	859	854
1982	1,288	1,277	1,323	1,402	1,254	1,380	1,479	1,641	1,407	1,292	1,311
Percent change	53.5	53.5	53.7	63.0	47.5	63.1	57.0	71.7	57.9	50.4	53.5
Northeast											
1977	576	574	587	1/	579	1/	807	1/	1/	612	373
1982	819	836	736	1/	776	1/	996	1/	1/	669	469
Percent change	42.2	45.6	25.4	n.a.	34.0	n.a.	23.4	n.a.	n.a.	9.3	25.7
Mid Atlantic											
1977	913	885	1,169	1/	1,144	1,021	1,295	987	1/	1,007	1,255
1982	1,295	1,268	1,527	1/	1,505	1,440	1,598	1,558	1/	1,292	1,590
Percent change	41.8	43.3	30.6	n.a.	31.6	41.0	23.4	57.9	n.a.	28.3	26.7
East North Central											
1977	809	818	777	768	746	831	862	805	1,391	706	889
1982	1,037	1,039	1,030	1,012	1,005	1,124	1,022	1,021	2,315	780	1,205
Percent change	28.2	27.0	32.6	31.8	34.7	35.3	18.6	26.8	66.4	10.5	35.5
West North Central											
1977	821	822	818	800	955	1,004	701	636	818	912	768
1982	1,287	1,277	1,299	1,280	1,416	1,621	1,211	1,014	1,236	1,406	1,232
Percent change	56.8	55.4	58.8	60.0	48.3	61.5	72.8	59.4	51.1	54.2	60.4
South Atlantic											
1977	875	843	949	1,025	912	1,014	1,022	1,027	971	992	980
1982	1,260	1,199	1,409	1,548	1,397	1,540	1,387	1,371	1,523	1,363	1,445
Percent change	44.0	42.2	48.5	51.0	53.2	51.9	35.7	33.5	56.8	37.4	47.4
East South Central											
1977	665	600	735	809	716	768	676	669	792	685	763
1982	1,020	907	1,142	1,339	1,072	1,226	1,066	1,070	1,220	1,039	1,197
Percent change	53.4	51.2	55.4	65.5	49.7	59.6	57.7	59.9	54.0	51.7	56.9
West South Central											
1977	767	734	845	867	830	722	940	742	980	839	846
1982	1,286	1,228	1,431	1,459	1,369	1,308	1,646	1,134	1,655	1,364	1,454
Percent change	67.7	67.3	69.3	68.3	64.9	81.2	75.1	52.8	68.9	62.6	71.9
Mountain											
1977	940	951	924	913	826	781	1,034	895	1,691	994	949
1982	1,423	1,375	1,498	1,568	1,339	1,353	1,742	1,430	2,656	1,553	1,540
Percent change	51.4	44.6	62.1	71.7	62.1	73.2	68.5	59.8	57.1	56.2	62.3
Pacific											
1977	984	982	1,000	1,083	1,027	3,872	1,196	1,126	1/	785	878
1982	1,928	1,918	2,014	2,196	1,999	19,971	2,525	2,316	1/	1,554	1,743
Percent change	95.9	95.3	101.4	102.8	94.6	415.8	111.1	105.7	n.a.	98.0	98.5

1/ No counties in this category.
n.a. not applicable.

Appendix Table 5--Current expenditures per pupil by county, 1982
(Counties grouped by 1982 enrollment)
All counties

Quintile	Upper limit of quintile	Mean county enrollment 1/	Current expenditures per pupil 1/
			dollars
1	1,800	1,069	2,493
2	3,502	2,622	2,119
3	6,293	4,732	1,963
4	13,834	9,222	2,005
5	> 13,834	56,984	2,325
All quintiles		14,912	2,258

Nonmetro counties

Quintile	Upper limit of quintile	Mean county enrollment 1/	Current expenditures per pupil 1/
			dollars
1	1,500	893	2,576
2	2,682	2,070	2,239
3	4,320	5,419	2,021
4	7,374	5,605	2,004
5	> 7,374	12,100	2,076
All quintiles		4,816	2,084

Metro counties

Quintile	Upper limit of quintile	Mean county enrollment 1/	Current expenditures per pupil 1/
			dollars
1	9,115	5,858	1,758
2	17,773	13,059	1,913
3	29,487	23,380	2,081
4	60,158	42,099	2,252
5	> 60,158	155,247	2,422
All quintiles		47,895	2,315

1/ Calculated from weighted averages.

Appendix Table 6--Current expenditures per pupil by county, 1982
(Counties grouped by 1982 enrollment density)
All counties

Quintile	Upper limit of quintile	Mean county enrollment density 1/	Current expenditures per pupil 1/
	pupils per square mile		dollars
1	2.44	1.69	2,755
2	5.96	4.06	2,177
3	10.68	8.10	2,077
4	24.10	15.72	2,032
5	> 24.10	96.00	2,309
All quintiles		13.66	2,258

Nonmetro counties

Quintile	Upper limit of quintile	Mean county enrollment density 1/	Current expenditures per pupil 1/
	pupils per square mile		dollars
1	1.64	0.52	2,884
2	4.36	2.88	2,313
3	7.22	5.70	2,080
4	12.13	9.20	1,973
5	> 12.13	20.22	1,947
All quintiles		4.05	2,084

Metro counties

Quintile	Upper limit of quintile	Mean county enrollment density 1/	Current expenditures per pupil 1/
	pupils per square mile		dollars
1	16.77	10.28	2,216
2	29.98	21.85	2,099
3	54.16	40.62	2,079
4	118.37	77.87	2,199
5	> 118.37	303.68	2,446
All quintiles		61.68	2,315

1/ Calculated from weighted averages.

Appendix Table 7--Current expenditures per pupil by county (Counties grouped by 1982 per capita personal income)

All counties

Quintile	Upper limit of quintile	Mean county per capita personal income 1/	Current expenditures per pupil	
			From own sources 1/	From all sources 1/
		dollars		
1	7,280	6,502	342	1,755
2	8,406	7,910	520	1,851
3	9,396	8,943	719	2,028
4	10,647	10,073	810	2,135
5	> 10,647	12,768	1,163	2,467
All quintiles		11,100	940	2,258

Nonmetro counties

Quintile	Upper limit of quintile	Mean county per capita personal income 1/	Current expenditures per pupil	
			From own sources 1/	From all sources 1/
		dollars		
1	7,029	6,315	340	1,765
2	8,079	7,589	517	1,895
3	9,006	8,569	731	2,063
4	10,174	9,559	888	2,189
5	> 10,174	11,347	1,138	2,490
All quintiles		8,785	733	2,084

Metro counties

Quintile	Upper limit of quintile	Mean county per capita personal income 1/	Current expenditures per pupil	
			From own sources 1/	From all sources 1/
		dollars		
1	8,704	7,765	390	1,679
2	9,647	9,212	705	2,010
3	10,564	10,140	747	2,075
4	11,682	11,167	1,004	2,310
5	> 11,682	13,504	1,221	2,523
All quintiles		11,829	1,008	2,315

1/ Calculated from weighted averages.

Appendix Table 8--Local government revenues for elementary and secondary education, per pupil, by source and type of State, in current dollars
Selected academic years 1969-70 to 1986-87

Type of State	Local revenues from own sources			State aid			Federal aid			Total revenues		
	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87
	Dollars per pupil											
U.S. Total	500	1,098	1,914	383	1,184	2,183	77	248	270	960	2,530	4,367
Rural/small town	349	810	1,374	330	985	1,966	99	258	291	778	2,052	3,632
Urban/metro	603	1,238	2,102	412	1,290	2,396	74	259	291	1,089	2,787	4,789
Other	443	1,048	1,903	371	1,140	2,004	71	232	235	885	2,421	4,142
Farm dependent	478	1,028	1,621	312	1,070	1,886	82	229	267	872	2,327	3,775
Persistent low income	200	511	853	350	923	1,884	111	272	343	661	1,705	3,080
Retirement destination	275	738	1,287	465	1,813	2,364	106	278	312	846	2,219	3,964
Census Division												
New England	626	1,739	2,704	318	887	2,031	54	203	257	998	2,830	4,993
Mid Atlantic	654	1,786	3,153	520	1,287	2,630	76	289	272	1,250	3,362	6,055
East North Central	587	1,268	2,317	331	1,050	1,835	50	189	223	968	2,507	4,375
West North Central	615	1,435	2,154	228	884	1,588	71	197	236	914	2,516	3,978
South Atlantic	268	708	1,541	404	1,075	2,061	106	261	282	778	2,044	3,884
East South Central	193	457	787	338	933	1,787	112	270	359	643	1,660	2,933
West South Central	288	770	1,590	351	1,127	1,991	94	284	291	733	2,180	3,872
Rocky Mountain	455	1,210	1,710	324	1,102	1,941	87	224	225	866	2,536	3,876
Pacific	617	674	1,137	387	1,714	2,853	69	275	296	1,073	2,663	4,285

Source: U.S. Department of Agriculture, Economic Research Service based on data from the Center for Education Statistics and U.S. Department of Commerce, Bureau of Economic Analysis.

Appendix Table 9--Local government revenues for elementary and secondary education, per pupil, by source and type of State, in constant 1986-87 dollars
Selected academic years 1969-70 to 1986-87

Type of State	Local revenues from own sources			State aid			Federal aid			Total revenues		
	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87
	Dollars per pupil											
U.S. Total	1,569	1,566	1,914	1,201	1,689	2,183	242	354	270	3,011	3,610	4,367
Rural/small town	1,094	1,155	1,375	1,035	1,405	1,966	311	368	291	2,441	2,928	3,632
Urban/metro	1,890	1,767	2,102	1,292	1,840	2,396	232	369	291	3,415	3,975	4,789
Other	1,389	1,496	1,903	1,162	1,626	2,004	223	331	235	2,776	3,453	4,142
Farm dependent	1,498	1,467	1,622	977	1,526	1,886	257	327	267	2,735	3,320	3,775
Persistent low income	628	729	854	1,098	1,317	1,884	348	388	343	2,073	2,434	3,081
Retirement destination	863	1,053	1,288	1,459	1,716	2,364	332	397	312	2,654	3,166	3,964
Census Division												
New England	1,962	2,481	2,705	997	1,266	2,031	169	290	257	3,131	4,036	4,993
Mid Atlantic	2,050	2,548	3,153	1,629	1,836	2,630	238	412	272	3,921	4,795	6,055
East North Central	1,839	1,809	2,316	1,039	1,498	1,835	157	270	223	3,036	3,577	4,374
West North Central	1,927	2,047	2,154	714	1,261	1,588	223	281	236	2,867	3,590	3,978
South Atlantic	839	1,010	1,541	1,265	1,534	2,061	332	372	282	2,441	2,916	3,884
East South Central	604	653	787	1,058	1,331	1,787	351	385	359	2,017	2,369	2,933
West South Central	908	1,098	1,591	1,100	1,608	1,991	295	405	291	2,299	3,111	3,873
Rocky Mountain	1,428	1,726	1,711	1,016	1,572	1,941	273	320	225	2,716	3,617	3,877
Pacific	1,934	963	1,136	1,214	2,445	2,853	216	392	296	3,365	3,799	4,285

1/ Data for 1969-70 and 1979-80 adjusted by the Implicit Price Deflator for State and Local Government Purchases of Goods and Services.
Source: U.S. Department of Agriculture, Economic Research Service based on data from the Center for Education Statistics and U.S. Department of Commerce, Bureau of Economic Analysis.

Appendix Table 10--Current expenditures per pupil in average daily attendance, 1969-70, 1979-80, and 1986-87
Current and constant 1987 dollars 1/

State	Current expenditures per pupil in average daily attendance					
	1969-70	1979-80	1986-87	1969-70	1979-80	1986-87
	Current dollars			Constant 1987 dollars		
U.S. total	816	2,272	3,970	2,560	3,242	3,970
Alabama	544	1,612	2,610	1,707	2,300	2,610
Alaska	1,123	4,728	8,842	3,524	6,747	8,842
Arizona	720	1,971	2,784	2,259	2,813	2,784
Arkansas	568	1,574	2,795	1,782	2,246	2,795
California	867	2,268	3,751	2,720	3,236	3,751
Colorado	738	2,421	4,129	2,316	3,455	4,129
Connecticut	951	2,420	5,552	2,984	3,453	5,552
Delaware	900	2,861	4,776	2,824	4,082	4,776
District of Columbia	1,018	3,259	5,349	3,194	4,650	5,349
Florida	732	1,889	4,056	2,297	2,695	4,056
Georgia	588	1,625	3,167	1,845	2,319	3,167
Hawaii	841	2,322	4,372	2,639	3,313	4,372
Idaho	603	1,659	2,555	1,892	2,367	2,555
Illinois	909	2,587	3,980	2,852	3,691	3,980
Indiana	728	1,882	3,379	2,284	2,686	3,379
Iowa	844	2,326	3,740	2,648	3,319	3,740
Kansas	771	2,173	4,137	2,419	3,101	4,137
Kentucky	545	1,701	3,107	1,710	2,427	3,107
Louisiana	648	1,792	3,237	2,033	2,557	3,237
Maine	692	1,824	3,650	2,171	2,603	3,650
Maryland	918	2,598	4,659	2,880	3,707	4,659
Massachusetts	859	2,819	4,856	2,695	4,023	4,856
Michigan	904	2,640	3,954	2,837	3,767	3,954
Minnesota	904	2,387	4,241	2,837	3,406	4,241
Mississippi	501	1,664	2,534	1,572	2,374	2,534
Missouri	709	1,936	3,345	2,225	2,763	3,345
Montana	782	2,476	4,070	2,454	3,533	4,070
Nebraska	736	2,150	3,437	2,309	3,068	3,437
Nevada	769	2,088	3,768	2,413	2,979	3,768
New Hampshire	723	1,916	3,386	2,269	2,734	3,386
New Jersey	1,016	3,191	6,120	3,188	4,553	6,120
New Mexico	707	2,034	3,537	2,218	2,902	3,537
New York	1,327	3,462	6,299	4,164	4,940	6,299
North Carolina	612	1,754	3,473	1,920	2,503	3,473
North Dakota	690	1,920	3,209	2,165	2,740	3,209
Ohio	730	2,075	3,769	2,291	2,961	3,769
Oklahoma	604	1,926	2,701	1,895	2,748	2,701
Oregon	925	2,692	4,236	2,902	3,841	4,236
Pennsylvania	882	2,535	4,752	2,767	3,617	4,752
Rhode Island	891	2,601	4,574	2,796	3,711	4,574
South Carolina	613	1,752	3,005	1,923	2,500	3,005
South Dakota	690	1,908	3,190	2,165	2,723	3,190
Tennessee	566	1,635	2,842	1,776	2,333	2,842
Texas	624	1,916	3,584	1,958	2,734	3,584
Utah	626	1,657	2,455	1,964	2,364	2,455
Vermont	807	1,997	4,459	2,532	2,850	4,459
Virginia	708	1,970	3,809	2,222	2,811	3,809
Washington	915	2,568	3,808	2,871	3,664	3,808
West Virginia	670	1,920	2,959	2,102	2,740	2,959
Wisconsin	883	2,477	4,701	2,771	3,535	4,701
Wyoming	856	2,527	6,229	2,686	3,606	6,229

1/ Data for 1969-70 and 1979-80 deflated by Implicit Price Deflator for State and Local Government Purchase of Goods and Services.

Source: U.S. Department of Education, Center for Education Statisitics. and U.S. Department of Commerce, Bureau of Economic Analysis.

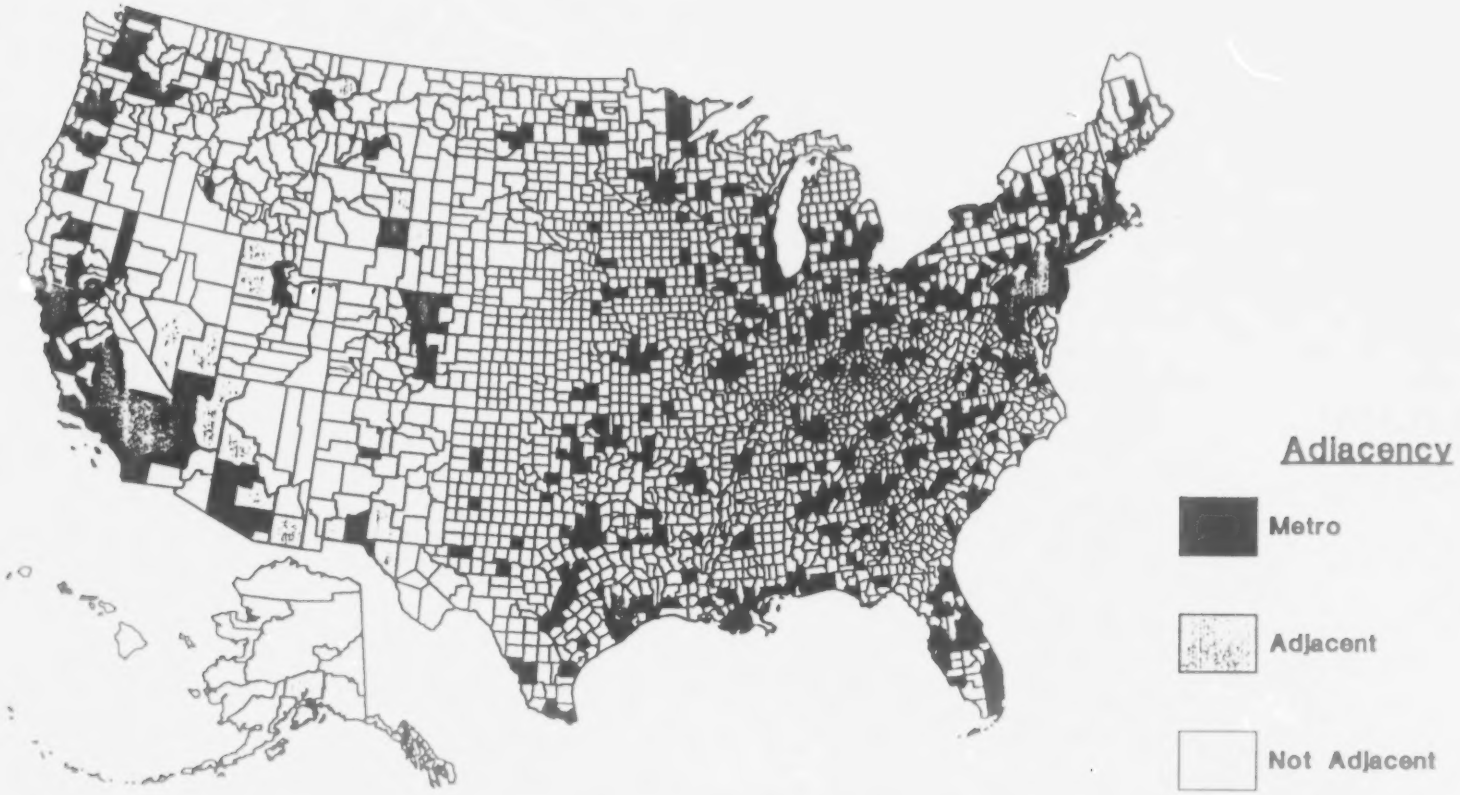
Appendix Table 11-- Revenue receipts of public elementary and secondary schools, by source, and State
1969-70, 1979-80, and 1986-87
Current dollars

State	Revenue receipts											
	Total	Local	State	Federal	Total	Local	State	Federal	Total	Local	State	Federal
	1969-70				1979-80				1986-87			
	millions of dollars											
U.S. total	40,273	20,991	16,063	3,220	96,881	42,029	45,349	9,504	160,910	70,517	80,434	9,959
Alabama	471	101	284	86	1,210	291	772	147	1,823	319	1,266	238
Alaska	99	20	58	22	417	77	300	39	907	159	702	46
Arizona	351	139	170	42	1,213	597	468	148	1,515	402	985	128
Arkansas	252	94	110	48	693	240	338	115	1,248	340	793	115
California	4,814	2,996	1,536	282	10,314	2,375	6,839	1,099	17,770	4,292	12,172	1,306
Colorado	455	289	119	46	1,498	793	609	97	2,544	1,437	996	111
Connecticut	598	286	285	27	1,217	805	327	86	2,647	1,463	1,069	115
Delaware	152	29	113	11	296	68	191	37	451	105	310	36
District of Columbia	175	130	0	45	311	242	0	68	410	384	0	26
Florida	1,148	394	631	123	3,265	1,061	1,836	368	6,692	2,643	3,557	492
Georgia	721	236	382	103	1,930	615	1,043	272	3,355	1,193	1,895	267
Hawaii	186	6	160	20	365	0	309	56	707	1	648	58
Idaho	122	60	48	14	360	118	208	34	562	180	342	40
Illinois	2,473	1,581	768	124	4,614	2,473	1,756	385	7,416	3,881	2,985	550
Indiana	868	473	342	52	1,934	748	1,025	161	3,616	1,352	2,129	135
Iowa	638	445	158	34	1,304	712	509	83	1,767	907	762	98
Kansas	437	266	136	34	1,043	527	445	72	1,691	875	733	83
Kentucky	451	136	235	79	1,092	217	701	175	1,947	382	1,352	213
Louisiana	591	188	332	71	1,525	467	835	223	2,621	940	1,394	287
Maine	187	103	70	14	408	185	183	41	755	313	388	54
Maryland	859	495	295	70	1,991	1,052	770	169	3,165	1,753	1,244	168
Massachusetts	1,122	808	257	57	3,246	1,942	1,094	210	3,841	1,903	1,723	215
Michigan	1,902	955	856	91	4,880	2,601	1,930	349	6,571	4,116	2,227	228
Minnesota	936	436	444	56	2,113	778	1,211	124	3,092	1,188	1,777	127
Mississippi	321	85	169	67	729	138	408	183	1,275	365	700	210
Missouri	832	510	261	62	1,771	939	644	188	2,765	1,494	1,111	160
Montana	160	113	39	9	401	171	193	38	679	292	334	53
Nebraska	243	178	47	18	647	490	108	49	910	612	249	49
Nevada	106	57	38	11	302	126	155	20	567	302	239	26
New Hampshire	121	98	14	8	326	278	27	22	601	542	38	21
New Jersey	1,529	1,035	411	82	4,119	2,357	1,491	271	6,850	3,645	2,937	268
New Mexico	209	42	128	39	621	124	395	103	983	116	764	103
New York	4,557	2,224	2,098	235	9,479	5,097	3,605	777	15,103	7,813	6,606	684
North Carolina	781	190	465	127	2,013	517	1,218	278	3,557	1,058	2,264	235
North Dakota	122	74	31	17	270	121	119	30	399	153	214	32
Ohio	1,901	1,277	515	109	4,345	2,020	1,990	334	6,660	3,240	3,100	320
Oklahoma	385	187	149	49	1,246	377	694	175	1,665	475	1,100	90
Oregon	448	325	98	25	1,227	696	412	118	1,837	1,224	510	103
Pennsylvania	2,271	1,080	1,052	139	5,153	2,526	2,116	511	8,290	4,146	3,789	355
Rhode Island	165	90	64	11	365	208	119	38	575	328	223	24
South Carolina	441	111	263	67	987	366	444	176	1,936	620	1,133	183
South Dakota	122	88	17	17	274	169	63	42	417	260	112	45
Tennessee	546	215	252	80	1,274	540	537	196	2,320	910	1,169	241
Texas	1,827	777	840	210	5,862	2,304	2,878	680	12,480	5,932	5,717	831
Utah	219	84	113	21	653	257	340	55	1,154	448	640	66
Vermont	103	55	41	6	219	137	63	19	379	217	138	24
Virginia	832	422	292	117	2,116	1,046	838	233	3,870	2,345	1,314	211
Washington	761	281	425	55	2,132	459	1,481	192	3,128	631	2,317	180
West Virginia	280	94	148	38	735	221	433	82	1,210	322	780	108
Wisconsin	906	591	273	42	2,109	1,203	788	118	3,464	2,092	1,190	182
Wyoming	75	41	28	6	265	159	90	15	723	407	297	19

Source: U.S. Department of Education, Center for Education Statistics.

MAP 1

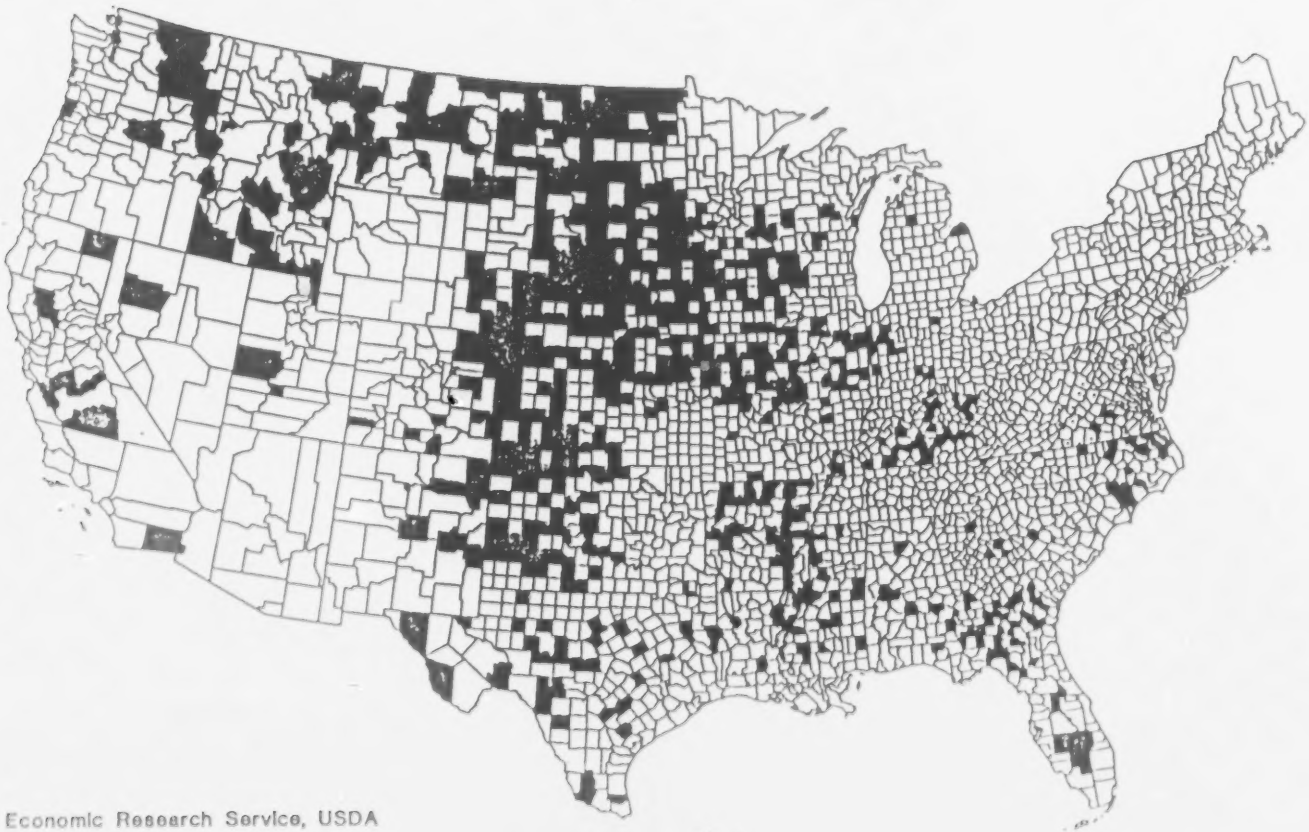
Nonmetro Counties
By Metro Adjacency



Economic Research Service. Adjacent counties have 2 percent commuting to metro areas.

MAP 2

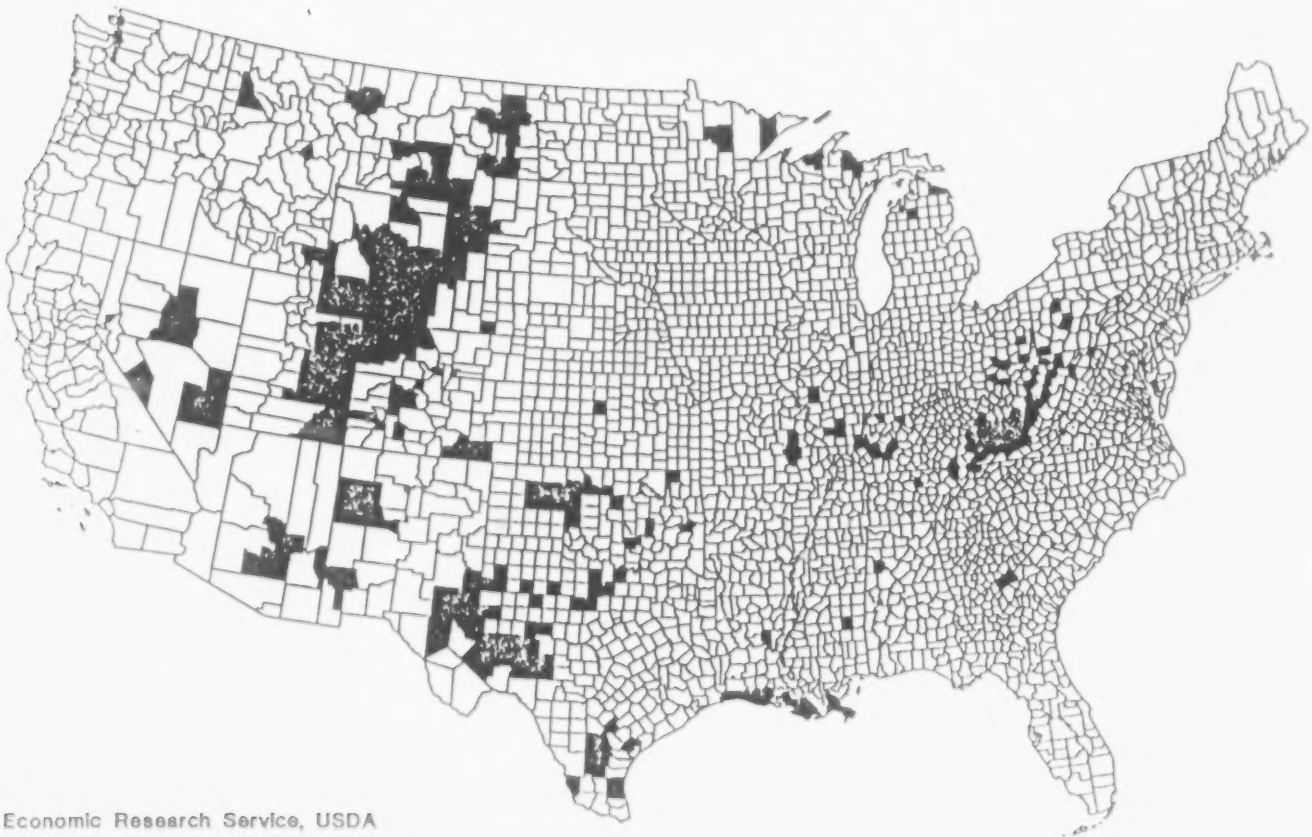
Farming-Dependent Counties in Nonmetro Areas, 1979



Economic Research Service, USDA

MAP 3

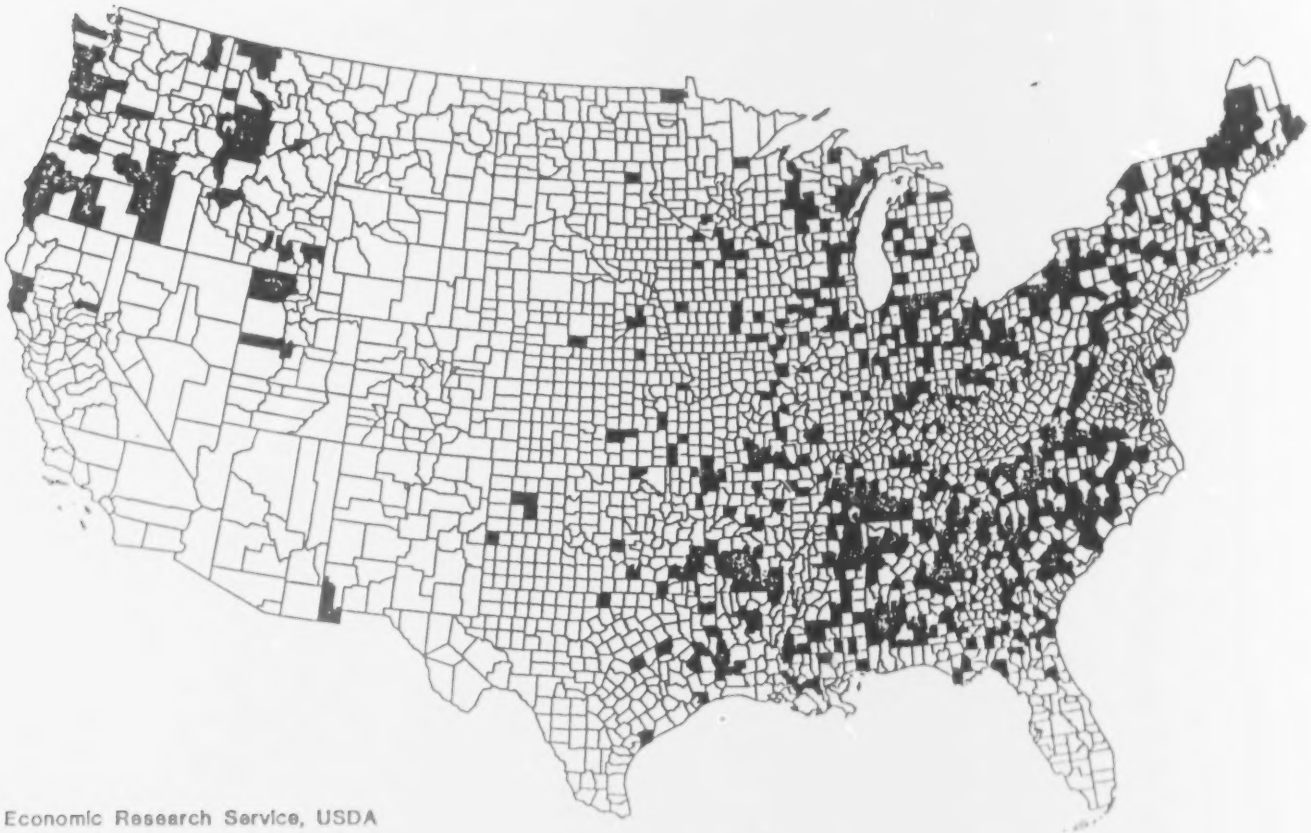
Mining-Dependent Counties in Nonmetro Areas, 1979



Economic Research Service, USDA

MAP 4

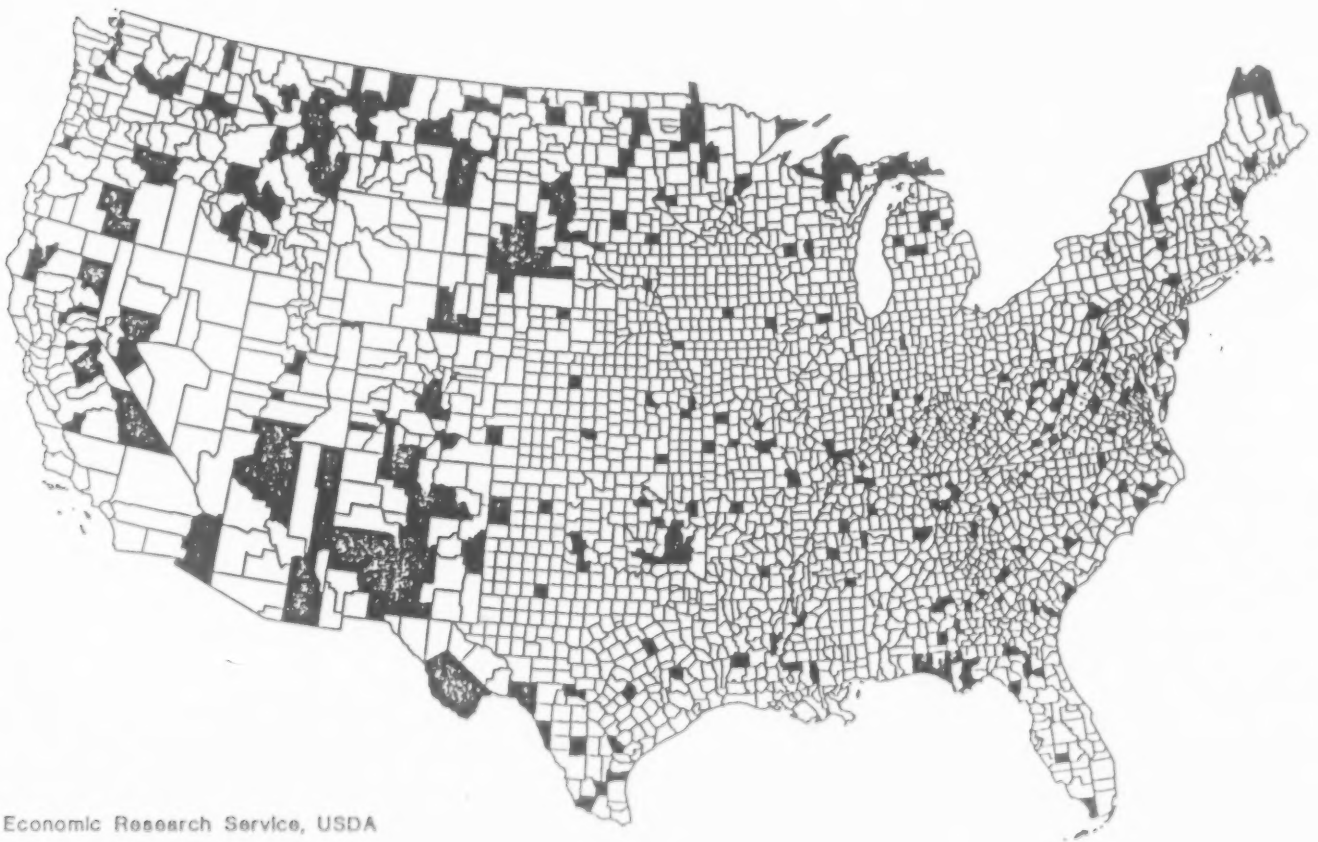
Manufacturing-Dependent Counties in Nonmetro Areas, 1979



Economic Research Service, USDA

MAP 5

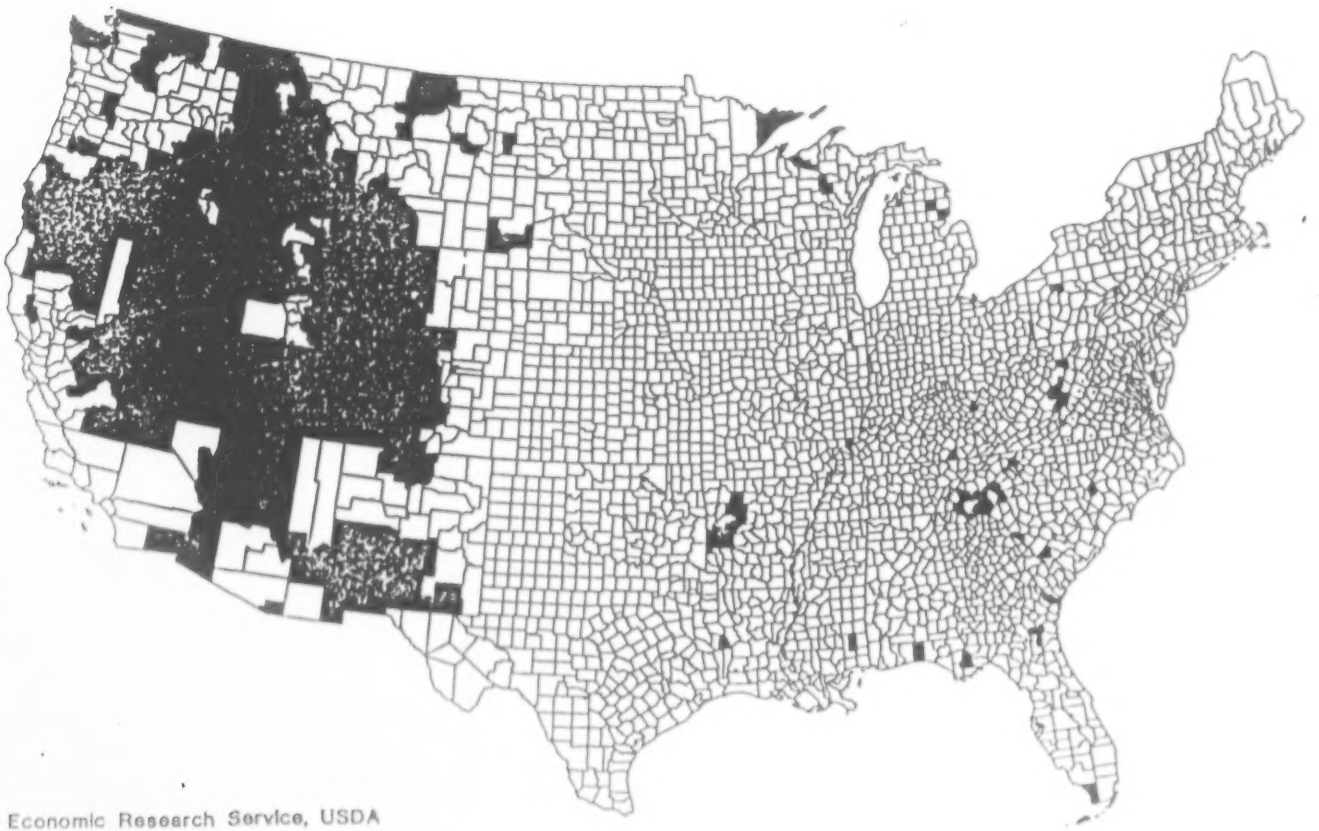
Government-Dependent Counties in Nonmetro Areas, 1979



Economic Research Service, USDA

MAP 6

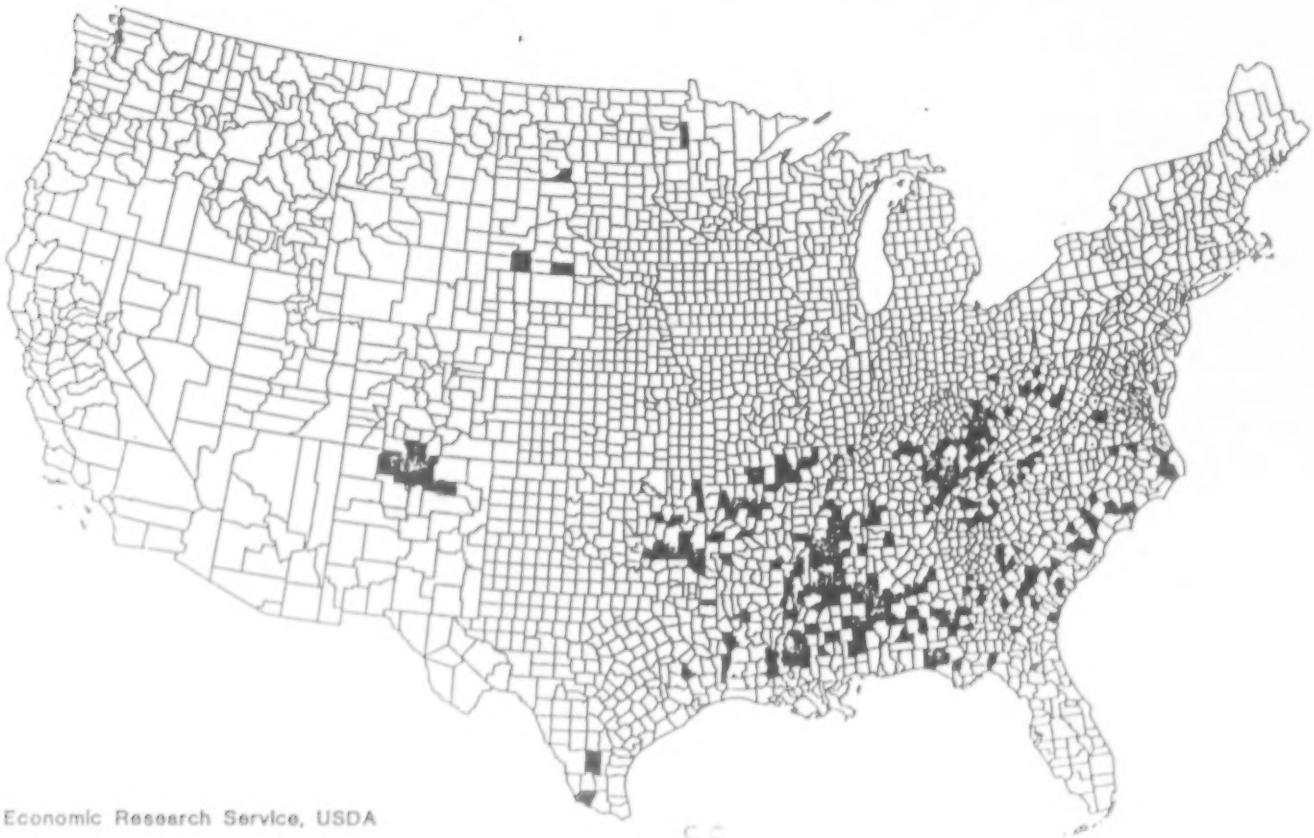
Federal Lands Counties in Nonmetro Areas, 1979



Economic Research Service, USDA

MAP 7

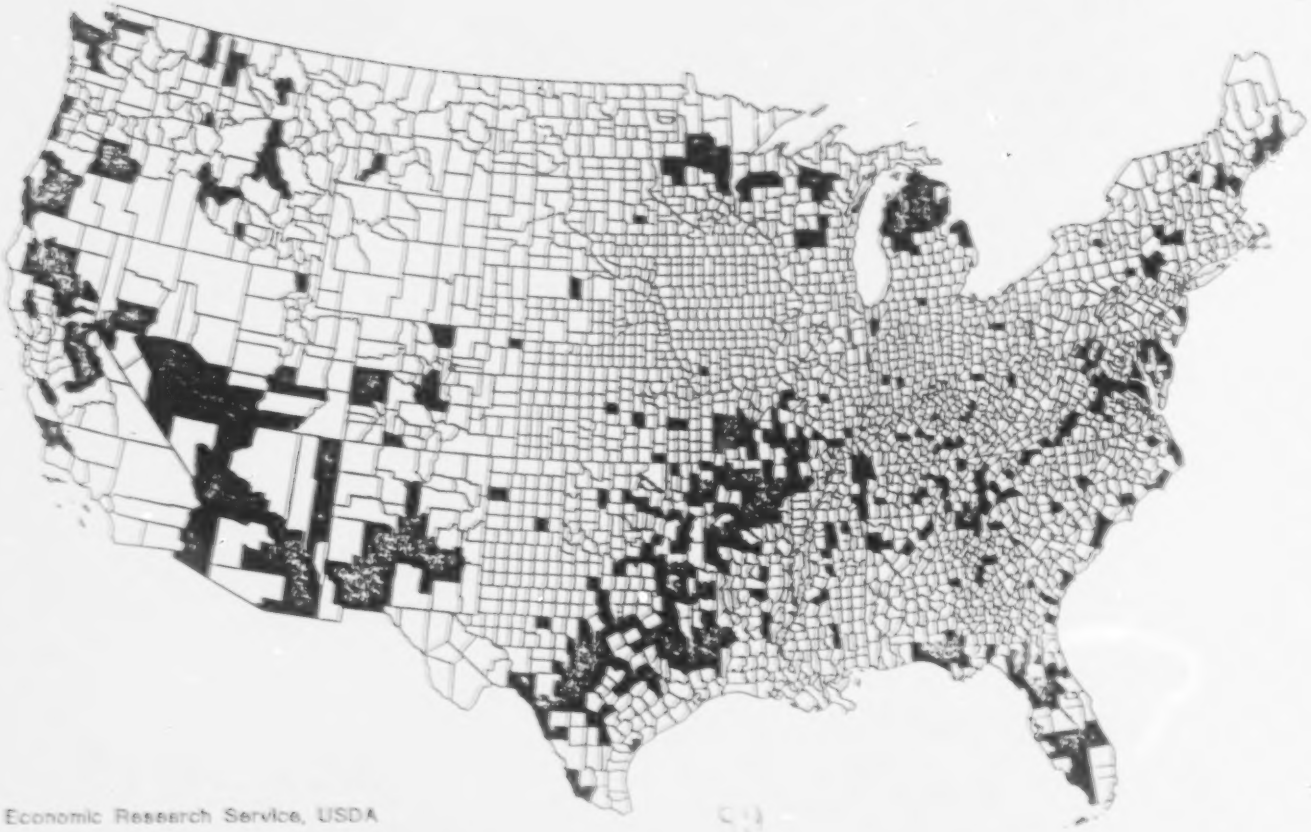
Poverty Counties in Nonmetro Areas, 1979



Economic Research Service, USDA

MAP 8

Retirement-Destination Counties in Nonmetro Areas, 1979



Economic Research Service, USDA

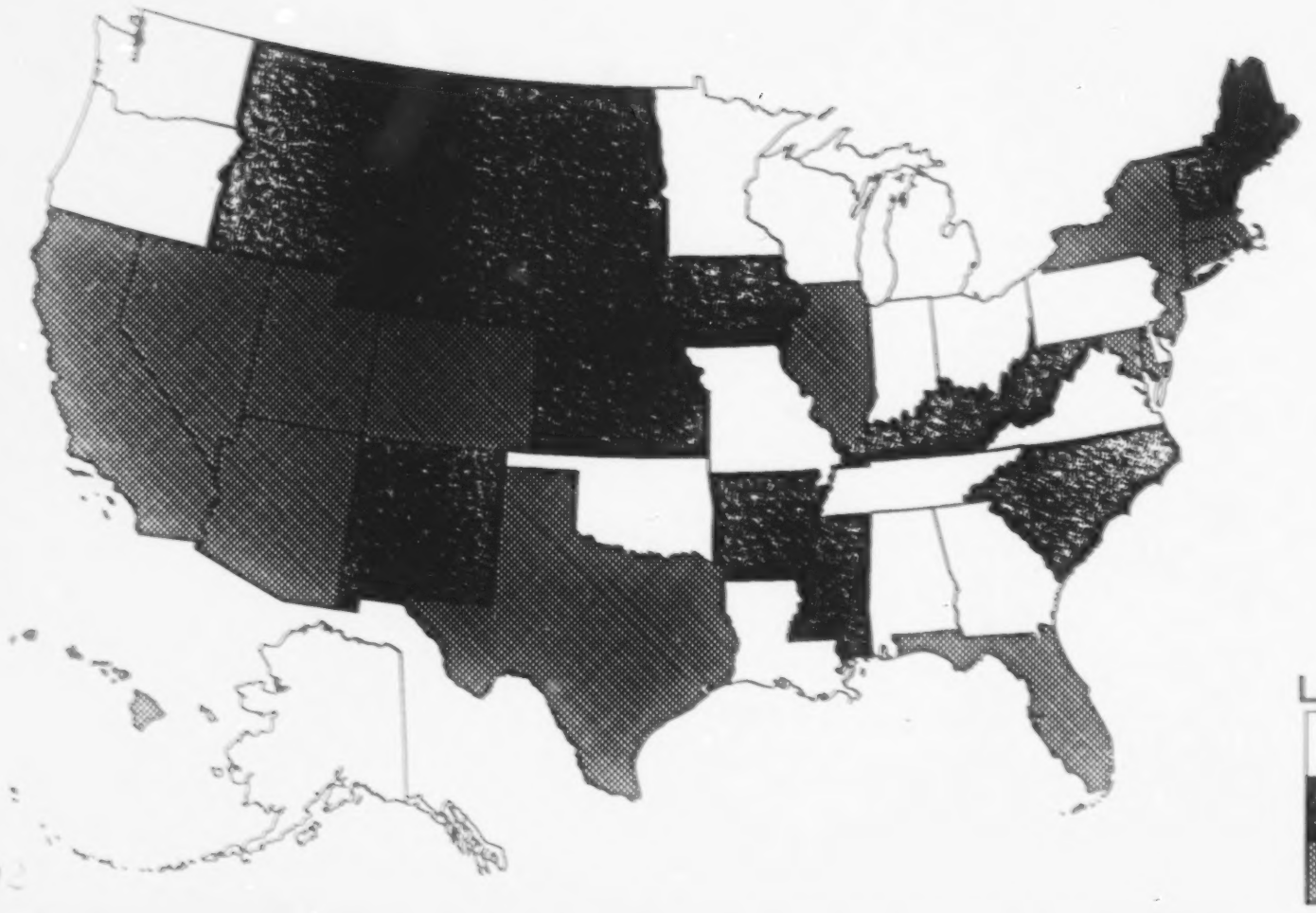
MAP 9

CENSUS REGIONS

1. Northeast
2. Mid—Atlantic
3. South Atlantic
4. East North Central
5. East South Central
6. West North Central
7. West South Central
8. Mountain
9. Pacific

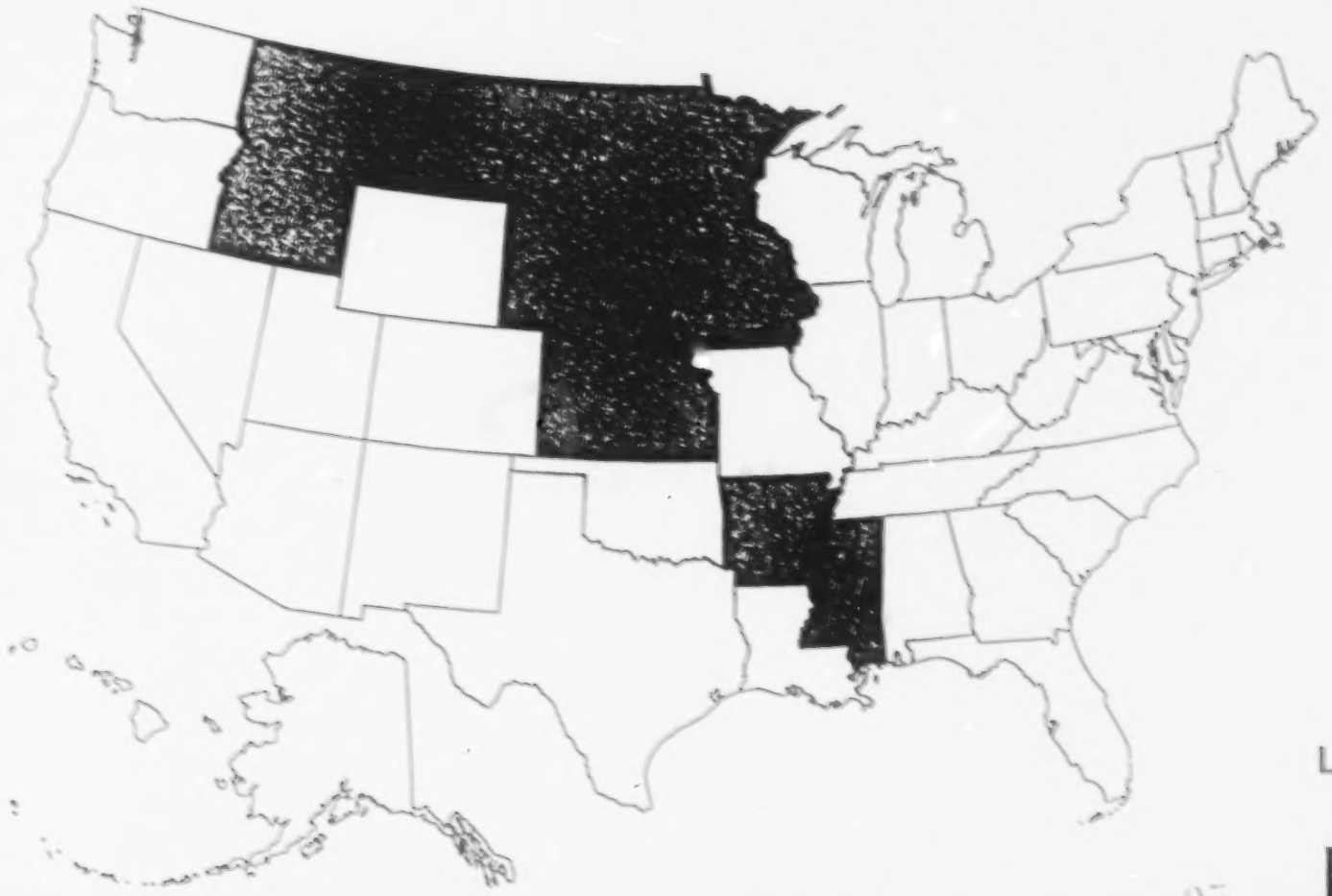
MAP 10

Rural and Urban States



MAP 11

Farm Dependent States



Legend

Farm dependant States

MAP 12

Persistent Low Income States

Legend

Persistent low income States

MAP 13

Retirement Destination States

Legend

Retirement destination State